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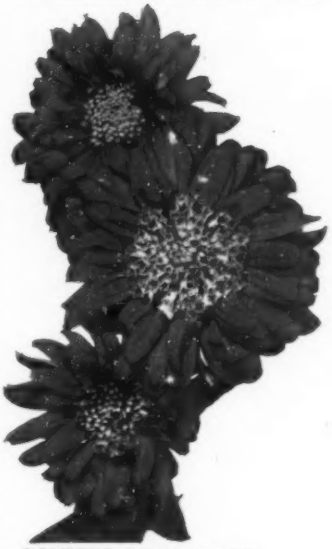

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Flower Grower

the HOME GARDEN magazine

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COMING IN MAY

• Next month Victor Ries will start off the **Healthy Garden** section by telling you how to keep your garden pest-free. Another pictorial feature will give easy but practical ways to keep your trees healthy. Leonard F. Frisbie will tell "How To Be an Azalea Enthusiast" while David Leach will turn to landscaping with rhododendrons. Also to be featured: roses, vegetables, iris and wildflowers.

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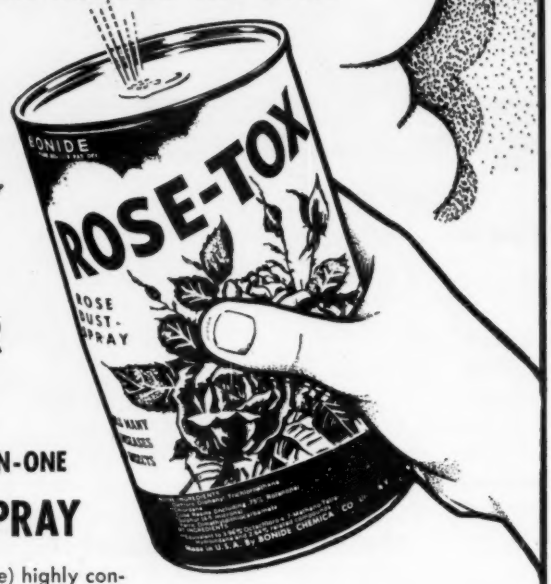

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Readers' Own Corner

The Favorite Flower

Dear Editor:

I can't imagine a rose garden without dozens of colorful, tall delphiniums for companions; or the blue campanula without the lovely, misty gypsophila near by; or the blue Salvia farinacea, unless surrounded by several plants of the fragrant white petunia, which is a hybrid and quite elegant.

My gardening interest began at ten, when I dug up a long row of sweet peas in Mother's garden to find out how they were coming. To my dismay, the little sprouts were all headed in the wrong direction, so all were reset. The little peas were right, of course, and I was wrong. Since then I have made cuttings grow into large shrubs; have grown bulbs from seed; have grown scraggy little pines into twelve- and fourteen-foot beauties. I have many of the newer roses, some daylilies and several hundred giant exhibition gladiolus. The knowledge from experience has been most entertaining. A favorite? If you love a garden, aren't they all? My favorite FLOWER GROWER cover for the year? All of them.—MRS. HAROLD J. BIGELOW, Freeport, Me.

Related tribute to a queen—Zulu Queen

Dear Editor:

A long time ago—in February, 1952—there appeared in FLOWER GROWER an invitation to tell you about our favorite flower. This was followed by an article entitled "If I Had But One Rose," by Edith M. Ross. This has prompted me (two years later) to write the following:

In my opinion "a rose . . . is a rose" *only* if it is a *red* rose. Other colors are beautiful, but when a rose is red, it is heavenly—just as God intended that a rose should be. Though many of the red roses on the market these days have their virtues, many, also, have their disappointments. Some plants are not vigorous; others have inferior foliage, susceptible to mildew and black spot; still others produce beautiful buds with weak stems, causing the rose to look down when open; and others are beautiful only until the hot sun hits them, turning them black and blue. However, *one* red rose in my garden is perfect—if there is such a thing on earth. That rose is Zulu Queen. (Patented in 1940 by Wilhelm Kordes, assignor to Jackson and Perkins Company, Newark, New York.)

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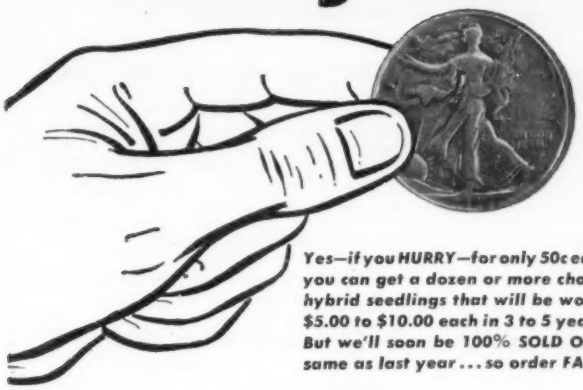

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Up to 150 days of flowering glory! Start these begonias indoors now. Plant in pots, boxes, even used coffee cans. Set outdoors about time tomatoes are set out. Complete easy-to-follow instructions sent with every order.

START NOW! PLANT NOW!

Finest Imported Bulbs:

Giant size tuberous rooted plants—official No. 1 size. Disease-resistant, require no spraying or dusting.

Special Collection

5 bulbs only $2.25 Postpaid
- 1 Rosebud
- 1 Carnation—Pink
- 1 Carnation—White
- 1 Marmorata
- 1 Crispa

10 bulbs–(2 collections) $3.75 postpaid
20 bulbs–(4 collections) $7.00 postpaid
50 bulbs–(10 collections) $15.00 postpaid
100 bulbs–(20 collections) $25.00 postpaid

UNCONDITIONALLY GUARANTEED! MONEY BACK ANYTIME!

STERN'S NURSERIES, Dept. G, Geneva, N.Y.

CHECK HERE
- [ ] 5 bulbs
- [ ] 10 bulbs
- [ ] 20 bulbs
- [ ] 50 bulbs
- [ ] 100 bulbs

Rush "Mardi-Gras" Begonias—unconditionally guaranteed to satisfy in every way, or my money back

Enclosed is $_____

Name_____

Address_____

Town_____ State_____

STERN'S NURSERIES • Geneva, N. Y.

STERN'S NURSERIES PROUDLY PRESENTS
THRILLING GARDEN MASTERPIECE

MAN-HIGH EYE-LEVEL GLADIOLUS

Amazing skyscraper specimens 5 to 6 FEET TALL

Stern's brings you another rare garden wonder. Gigantic GLADS—giant queens of floral beauty. Truly the most magnificent ever grown!

- • • • Imagine towering spikes taller than the average man—with a flowering head up to almost a yard long . . .
- • • • imagine 22 or more huge flowers on a single stem—each individual floret the size of a saucer, measuring 5½ to 8½ inches in diameter . . . each flower the size of a giant Amaryllis . . .
- • • • imagine a flag-pole spike with eight or more colossal flowers open at the same time—with florets so arranged that the spike is 8 to 10 inches wide—like a solid wall of brilliant color . . .
- • • • imagine enjoying weeks of colorful blooms as each bud bursts into flowering glory.

Don't miss this garden thrill—get these prize-winning Stern's Skyscraper varieties for a "flower show" garden this summer.

Some of these rare varieties are *currently* being offered by leading Gladiolus specialists at as much as $5.00 for a single bulb. Now, famous Stern's Nurseries brings you these "best-of-the-show" beauties at a price every gardener can afford. Now you can grow these amazing horticultural specimens in your own garden without risk!

Guaranteed to bloom in 90 days or less—or money back. (No need to return plants.)

So easy to grow, even the beginner can win prizes at flower shows. In your garden they are an outstanding spectacle that demands attention. In a floral arrangement, they are a "living picture" of grace and color that are not surpassed by any other flower. Simply plant these Stern's giants deeper than ordinary "Glads"—about 4-5 inches deep. This is necessary because their towering height requires a firm foundation. Plant in any kind of soil with good drainage. Give them maximum sunshine (all day long if possible). Water frequently. For a continuous display of exhibition Gladiolus, plant bulbs at intervals of two weeks. Plant until July 1st. Enjoy a succession of exquisite blooms from July until late Fall.

RUSH ORDER—our supply of these rare bulbs is extremely limited.
RESERVE YOUR SELECTION NOW. We ship Glads just before planting time.

STERN'S NURSERIES

DEPT. G • GENEVA, N. Y.

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GROWS INCHES IN A SINGLE DAY!

A Goliath of vitality! You've never seen such vigorous growth. On damp, cool summer days you can almost see them growing. Small quantities of plant food applied regularly, plus plenty of water and sun, is all you need for sensational prize-winning Glads.

5 SKYSCRAPER VARIETIES for MAN-HIGH, EYE-LEVEL BEAUTY

1—CREAMY WHITE—A magnificent specimen, produces a huge spike covered with flowers. Sensational.
2—PINK AND ROSE—Rare prize-winners! Tremendous flowers opening extremely wide. Very tall and graceful.
3—YELLOW AND ORANGE—A massive display of dazzling sunrise colors. A Flower Show champion.
4—SCARLET—King Size flowers. Rich deep color with a velvety glow. One of the largest—easily reaches 6 feet.
5—PURPLE AND LAVENDER—New, most unusual color. An amazing flower—tall and broad. Exquisite.

Stern's finest quality—officially rated No. 1 size
Every Stern's bulb treated INSECT RESISTANT
Every bulb guaranteed to bloom in 90 days or less

3 of each listed above—	15 bulbs....	$ 3.25	ALL PRICES POST-PAID
5 of each listed above—	25 bulbs....	$ 5.00	
10 of each listed above—	50 bulbs....	$ 9.50	
20 of each listed above—	100 bulbs....	$18.00	

Send check or money order.

STERN'S NURSERIES, INC., Dept. G, Geneva, N. Y.
I want Stern's MAN-HIGH GLADIOLUS that grows 5 to 6 feet tall. Every bulb guaranteed to bloom in 90 days or less.

CHECK QUANTITY
- ☐ 3 of each 15 BULBS $3.25
- ☐ 5 of each 25 BULBS $5.00
- ☐ 10 of each 50 BULBS $9.50
- ☐ 20 of each 100 BULBS $18.00

POSTPAID

Enclosed is $.....
NAME _____
ADDRESS _____
TOWN _____ STATE _____

What a wonderfully simple way to become

Successful Gardeners

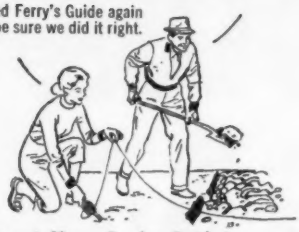
First, we planned our complete garden with the help of Ferry's Home Garden Guide.

It's so easy to do.

1. Like so many other home gardeners, this young couple is taking advantage of Ferry-Morse experience of 98 years.

Then we prepared the soil.

Used Ferry's Guide again to be sure we did it right.



2. Ferry's Home Garden Guide is crammed with "short-cut" tips on how to get soil ready for successful flower and vegetable seed planting.

We never thought of buying anything but Ferry's Seeds. They're the best.

3. Smart folks! When the difference in cost for a complete garden is only a few pennies, they know it pays to buy *the best—Ferry's Seeds.*

It was easy to put in our Ferry's Seeds.

4. And Ferry-Morse helps make it *easier* for you by putting full instructions on each seed packet.

You should see our flowers and vegetables!

Really amazing . . . thanks to Ferry-Morse.

You, too, can have a better garden with

FERRY'S SEEDS

Products of the world's largest breeder and grower of home garden seeds.

FREE! 48 pages of gardening tips!
Get your free copy of the authoritative 48-page **Ferry's Home Garden Guide.** Write Ferry-Morse Seed Co., Dept. F2, P.O. Box 778, Detroit 31, Mich. . . . or Ferry-Morse Seed Co., Dept. F2, Mountain View, Calif.

YOU'LL ENJOY "THE GARDEN GATE"
The Old Dirt Dobber passes along helpful gardening hints over CBS Radio every Saturday.

of the beautiful, dark red leaf buds and foliage. The foliage later turns dark green, but more new, dark red foliage follows, giving the plant an all-season, two-color effect which is most attractive.

Mildew never bothers it, it doesn't burn, and black spot is a very rare thing on Zulu Queen. A vigorous plant, it blooms from early spring until late fall, never being without buds or flowers. Large closed buds, on strong stems, slowly open to long black red buds, and in June, when five or six of these appear simultaneously, it is the most breathtaking sight among 150 varieties of roses, old and new. Slowly these majestic buds open to large, countless-petaled roses in shades of deep red, black and brown such as one might see in the folds of a rich red velvet drapery fabric.

Up to this point, perfume has not been mentioned, but wait until some spring morning when Zulu Queen permeates the air with the delicate perfume hidden deep in her heart. You will—at last—have the pleasure you have been waiting for. It is not a heavy perfume, but a fresh, delicate odor—befitting her beauty—befitting a queen!—WALTER T. BAUER, Bremer, Ind.

Pleasing points of view!

Dear Editor:

Both the January and February issues of FLOWER GROWER are splendid, and I have read and reread, looked at every lovely picture . . . and then looked again! How fortunate we readers are to have this fine magazine to help us with all our gardening. . . . May spring come early this year!—MRS. J. DEXTER WADE, Foxboro, Mass.

I want to add how very much I am inspired and kept interested in my garden by FLOWER GROWER. I am kept *so* inspired that I can't keep up with all that I'd like to do in my garden.—MRS. E. S. KINDELL, Rockford, Ill.

I enjoy it very much. The first thing I read is the "Gardener Indoors" section, especially the African-violet and gloxinia articles. The African-violet enthusiasts are greater in number than you know!—VERA I. COVERT, Amsterdam, N. Y.

A thought for Easter

Dear Editor:

Our children receive packages of flower seeds for Easter instead of candy. We feel that candy is inappropriate when they may see the miracle of the Resurrection in the coming of beauty and life to a dead-looking seed. Anyway, the joy lasts longer. At present, our children are small, so we give them easy, quick-growing things—like bachelor's-buttons. —MRS. RICHARD BAIER, Wayne, Neb.

HOW TO HAVE THE BEST LAWN AND GARDEN IN THE NEIGHBORHOOD

...Without Even Trying!

Use this* AMAZING NEW SCIENTIFIC MIRACLE *and grass and flowers will grow like magic*—WITHOUT *drudgery and* WITHOUT *any special knack or "know how" on your part!

Look whose lawn and garden is the showplace of the neighborhood now! And all without stirring his stumps! Read the article below and find out how *you* can get the same results from the same position!

A BIG STATEMENT? A TALL ORDER?

Sure it is! And it's up to us to *prove* to you that you can have the most luxurious carpet of lawn and the most beautiful flowers in the whole neighborhood, without even trying.

Let your neighbors worry over selecting just the "right" seed! Maybe you have, too, in the past . . . plus fretting over your particular soil conditions and just which fertilizer to use. Maybe you've even thought the way to turn your lawn into the envy of the neighborhood was to invest in a lot of heavy rollers and other equipment . . . and then to drag them around, literally watering the lawn with your own sweat!

If you'll pardon the expression — *BALONEY* to all this! All these things are *secondary factors*, of course. Each of them plays a *part* in your ending up with a garden and lawn that's a delight to look upon.

But the TRUTH is that *not one* of these considerations contains the *TRUE* SECRET of having the best lawn and garden in the neighborhood. The *TRUE SECRET* is the miraculous invention referred to above.

YEARS OF SCIENTIFIC RESEARCH

As with all revolutionary ideas, years of scientific investigation lie behind the discovery of this amazing invention, capable of giving you the best lawn and garden in the neighborhood. The story is a dramatic one, indeed. Why, scientists asked themselves, did lawns and gardens situated side by side on the same street vary so widely in growth and beauty? Was it *just* a question of seed, soil, fertilizer and the amount of personal attention lavished on a lawn or garden that made the difference?

The scientists didn't think so, and they set up a series of experiments to find the missing link — *and they succeeded!* Today, for the first time, the result of these experiments is *yours!* It's yours in the form of this amazing new invention that *guarantees* you a thick, healthy, golf-green lawn and all the gorgeous, full-blooming flowers you could wish for.

THE SECRET

The true secret behind this astounding new invention is best demonstrated by a series of simple, yet straight-to-the-point parallels: Fire can warm you or burn you; be a blessing or be a menace. *It all depends on how you apply it!* The same bottle of medicine can cure you or kill you. *It all depends on the proper application.*

AND, FOLLOWING THE SAME LOGIC, IT'S A PROVEN SCIENTIFIC FACT THAT THE ONLY THING KEEPING MOST PEOPLE FROM HAVING A LAWN AND GARDEN THAT'S THE SHOWPLACE OF THE NEIGHBORHOOD . . . IS *IMPROPER APPLICATION* OF FERTILIZER!

Improper application of even the best fertilizer could STARVE YOUR PLANTS TO DEATH. *Improper application* of fertilizer could BURN OUT AND DESTROY TENDER PLANT GROWTH.

The TRUE SECRET now becomes obvious — *PROPER, INDISPUTABLY ACCURATE FERTILIZER APPLICATION* can give you the best looking lawn and garden in town, with little or no effort on your part.

THE MIRACLE'S NAME IS *HYDROMIX*

The HYDROMIX is a scientifically designed, *completely automatic* proportioning device which attaches to your hose faucet. HYDROMIX actually measures and controls soluble fertilizer solution, adding it to the water passing through your garden hose. It doesn't make *any difference* which one of the many excellent brand name soluble fertilizers you use. The *point is* that HYDROMIX gets every last iota of value out of it.

The water-fertilizer mixture sprinkling your lawn from your sprinkler or soaker is as scientifically accurate as a baby's formula! HYDROMIX eliminates dangerous guesswork and chance of human error.

You've never before seen anything like it, though you may have seen similar-*looking* devices. The difference is that *HYDROMIX actually does* what these other devices merely *attempt* to do. That's because HYDROMIX *does not* work on the uncertain syphoning principle, which can be upset by any number of factors. HYDROMIX gives accurate proportioning at all water pressures, rates of flow and lengths of hose. Your precious plants and grass will be getting the same uniform solution whether you have the faucet turned on full blast or throttled down to a dribble. Water pressure just doesn't effect HYDROMIX's accuracy — in fact, has nothing to do with it.

HOW *HYDROMIX* WORKS

Just make a concentrate solution, preferably in a ten quart pail, using any of the brand name soluble fertilizers, such as FOLIUM, GRO-STUFF, HYPONEX, MIRACLE-GRO, QUICK-LIFE, RX-15, etc. HYDROMIX works equally well with *liquid* fertilizers, too, such as ORTHO-GRO or NA-CHURS. Specific instructions regarding the amount of soluble or liquid fertilizer to be used come with every HYDROMIX. Fill the bottle portion of the HYDROMIX with the concentrate and attach to the dispenser.

AND LOOK AT THE WORK AND MESS *HYDROMIX* SAVES YOU!

HYDROMIX eliminates the need for storing bulky, smelly fertilizers. It eliminates the need for a fertilizer distributor and the back-breaking labor of dragging it around the lawn. No more of the choking dust and drudgery that often made you wonder if a beautiful lawn and garden was really worth all the effort! With HYDROMIX, just get it started and then forget it. You'll truly be delighted and surprised at the bountiful, luxurious new growth that comes shooting out of the *same* soil, from the *same* seed you've always used.

IT COSTS YOU NOTHING TO TRY *HYDROMIX*

HYDROMIX is sold under a *money back guarantee*—and *only* under a money back guarantee. The ridiculously low price is $4.95, POSTPAID (NO C.O.D.'s, PLEASE), and if after trying HYDROMIX for 14 days, you can't actually *see* your lawn and garden sprouting into a wonderland of rich, lush, new plant life, simply return the HYDROMIX and your money will be cheerfully refunded.

HERE IT IS!

HYDROMIX

HYDROMIX is the new miracle invention that everybody's talking about! Simply attach one end to house hose faucet and the other end to garden hose or sprinkler. Any type of sprinkler or soaker may be used. Next, the glass container is filled with a concentrated solution of your favorite soluble or liquid fertilizer. The water is then turned on and you're free to rest while the HYDROMIX does all the work. But that's only part of the HYDROMIX miracle—*read every word above* for the complete, dramatic story!

YOU DON'T RISK A CENT!

MONEY BACK GUARANTEE

MAIL COUPON TODAY!

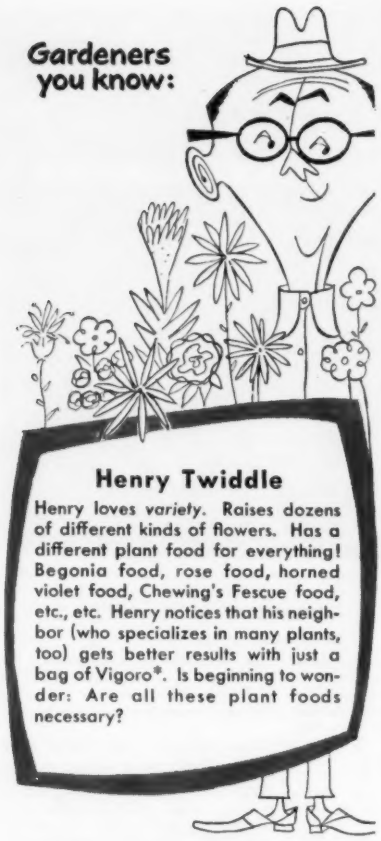
DOGGETT-PFEIL COMPANY
Department H
Springfield, New Jersey

Enclosed is my check or money order for $4.95. Please send my HYDROMIX, postpaid. It is understood that if, for any reason, I do not care to keep HYDROMIX after 14 day trial, I can return same and my money will be promptly refunded.

Name_____

Address_____

City_____ Zone_____ State_____



We hardly blame you, Henry. It's fun to experiment. Fun to try this and that plant food to see what brings best results.

We can save you a little time and trouble however.

Because a lot of folks who *have* experimented still find that you can't beat Vigoro for proved results. That's why so many professional gardeners, turf experts, nurserymen and florists—people who *must* get good results—use and recommend Vigoro for everything that grows.

Vigoro has actually been *proved* to contain all the food elements plants need from soil to grow and thrive best. That applies to every type of grass and flower (perennials, biennials, bulbs and annuals).

So have fun if you want. But when you want beautiful results *for sure*, depend on Vigoro. Now in 2 forms. Regular and new Instant Vigoro that's soluble in water.

*Vigoro is the trade-mark for Swift & Company's complete, balanced plant food.

Plant for Permanence

Rhododendron Vaseyi

by DONALD WYMAN

THIS beautiful American azalea is found native in the Blue Ridge Mountains of North Carolina. Its sterling qualities have made it a desirable shrub as far north as Portland, Me., and in many gardens in England where acid soil predominates. There are many vivid colored azaleas from the Orient which have become popular in recent years but this delicate pink flowered American native is well worth planting in any garden.

The uniquely colored blush-pink flowers are sometimes two inches in diameter and are especially conspicuous as they appear in mid-spring before the leaves. When these shrubs are grown from seed the colors of different plants will vary slightly from almost pure white to a deep pink. This variation is highly desirable.

This is one of the azaleas which will thrive near water. There is nothing quite as beautiful in the spring as a mass of these azaleas blooming at the edge of a pond, especially if planted under towering oak trees, for they bloom at the same time as the young, bronze colored leaves of oaks first appear.

In the fall, the pinkshell azalea is one of the few azaleas boasting a red autumn color. This is pronounced only in situations where the plants are exposed to direct sunlight in the late afternoons but it gives them colorful interest during two seasons, an important factor in small gardens where space is limited.

The pinkshell azalea may grow anywhere from 6 to 9 feet tall but fortunately for the owner of a small garden, they can be kept healthy and blooming well at almost any height merely by intelligent pruning. This is accomplished by removing some of the older stems when they become too tall and heading back some of the others here and there, keeping the plant compact but at the same

Juniperus Californica

by LESTER ROWNTREE

NOW that half a dozen native West Coast junipers are on the market it is important for the amateur to select the ones suited to his climate and soil. Juniperus occidentalis, the valiant and stalwart giant of high altitudes, thrives only on hilltops and mountains. Prostrate J. sibirica, which pads the same zones takes more kindly to lower altitudes, though it merely lingers in fog. It is a great addition to hot rock gardens inland from the coast. J. utahensis, an erect and compact small tree, is a success only in gravelly gardens of high deserts. Here it takes the subzero temperature of arid slopes. Cold does not effect western junipers as long as they have perfect drainage and dry air.

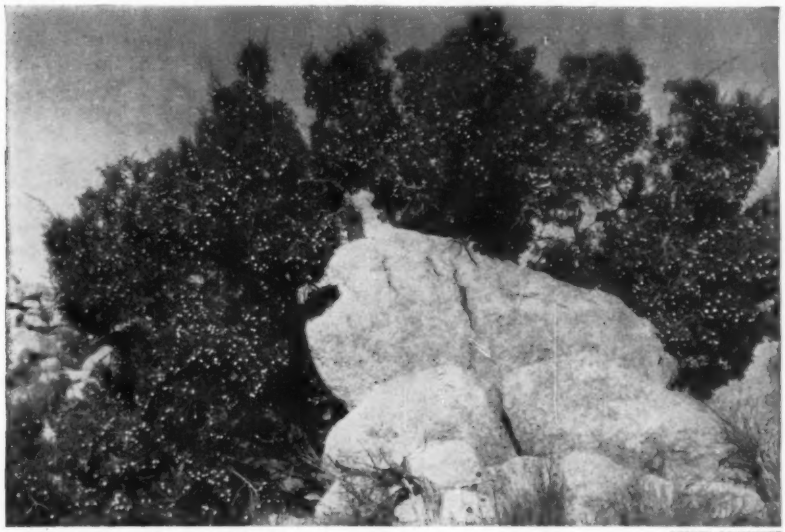
Juniperus californica, native to lifted hills and mesas between 3000 and 5000 feet altitude, has proved more adaptable. Although this decorative bush is native to summer-hot gravel it will grow, though slowly, in average garden soil. Perfect drainage and air that is not continually moist are essential. If you have a hot boulder the shrub will relish its companionship and it likes a warm rocky slope. In shallow, dry soil this much branched bush may not exceed three feet. In deep soil it may attain 15 feet or more with a spread of more than 40 feet. It endures extreme drought and wind only sharpens the bush into interesting lines. Collected moisture around root or neck, however, is its doom. Pruning for the form required can be done, though the natural shape could hardly be improved upon. Tall old specimens of Juniperus californica become much photographed subjects. Wind has twisted the shaggy ash gray trunks and gnarled their branches.

The small staminate and pistillate flowers are usually borne on separate bushes and the ovoid berry-like cones generally ripen the second year. These are the glory of the bush. They may vary in size from ¼ to ½ inch and generally ripen the second year. Individual bushes

ARNOLD ARBORETUM

time reducing too profuse sucker growth so that the horizontal branches can produce many flower buds.

Acid soil is a prerequisite for the good growth of all azaleas and rhododendrons, and where it is unavailable or it can not be made from decomposing oak leaves or pine needles or with the addition of chemicals like aluminum sulfate, then azaleas should not be grown. However, with the correct soil, be the garden large or small, the pinkshell azalea will lend a delicate touch of unique color in the spring and again in the fall when autumn temperatures turn its foliage a pleasing red color.



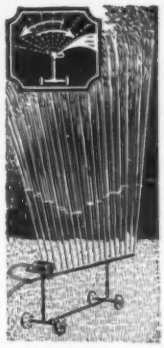
LESTER ROWNTREE

often carry dissimilar fruit for there is great variation in scale tip development, some tips being mere protruding pinpoints and others conspicuously long. When boughs are gathered for Christmas greens, those having large and interestingly shaped cones heavy with blue-white bloom are in great demand. The fresh fruit has always been an important item in the diet of Indians. When ripe and brown the cones are ground into meal for bread and cakes.

The branchlets are densely covered with aromatic scale-like leaves uniform on all bushes even though exposure had formed different looking shrubs.

for maintaining the "MOST BEAUTIFUL LAWN IN YOUR TOWN"

MARCH Automatic RAINMAKER



Attaches to ordinary garden hose. Water falls like rain over 1800 square foot area. No overlapping. No dry spots. Oscillator tube fully adjustable for coverage up to, but not on sidewalks, house; or for restricted areas. Hydraulic motor operates positively on pressures as low as 20 lbs. All moving parts are of brass — will not rust. 4 wheel chassis for easy mobility. The finest sprinkler available for the money. Sold on money-back guarantee. Shipped prepaid cash with order.

Model 4900-6, 6 ft. length
1800 sq. ft. coverage $45.00

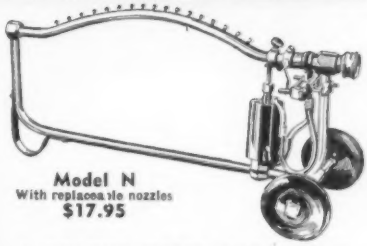
Other Models Available

Model 4900-3, 3 ft. length
1200 sq. ft. coverage . . . $35.00
Model 4900-10, 10 ft. length
2400 sq. ft. coverage . . $55.00

MARCH AUTOMATIC IRRIGATION CO.
Box 42-F Muskegon, Michigan

"The Sprinkler of Sprinklers"

Automatic Rainmaker, Jr.



Model N
With replaceable nozzles
$17.95

A DELUXE HOME SPRINKLER AT A BUDGET PRICE

LARGE AREA COVERAGE
Sprinkles a 40 by 60 foot rectangular area

EFFECTIVE FOR SMALL AREAS, TOO
Will operate nicely on water pressures as low as 20 pounds.

TROUBLE-FREE OPERATION
Completely automatic piston type actuator. All moving parts are brass — will not rust. Oscillator tube fully adjustable to meet any sprinkling requirement. Fixed hose connection—will not twist hose as spray tube turns. Rubber wheels. One year guarantee against defective material or workmanship.

MODEL L — same as model N except with drilled spray tube instead of replaceable spray nozzles $15.95

manufactured by MARCH

Producers of Superior Sprinkler Equipment for 30 Years.

MARCH AUTOMATIC IRRIGATION COMPANY
Box 42-F Muskegon, Mich.

Ask the family that has an ECLIPSE®

The World's Best Lawn Mower

Eclipse® ROCKET® DELUXE 20"

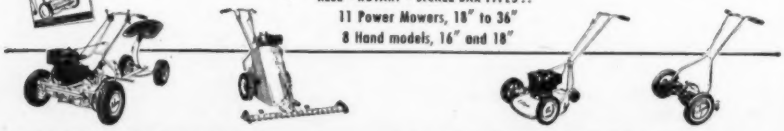
Just pull the starter lever . . . rest your hands on the exclusive "Natural-Grip" handle . . . listen to the powerful engine respond to your touch on the fingertip control. You'll be convinced that *easy* is the word for Eclipse! And see how it's built more substantially, with strong castings instead of less expensive construction . . . see how it's precision made to give positive cutting action — year after year. The Elmco-treated steel reel and lower blade stay sharp up to twice as long. It's nice to know, too, that repair parts are *always* available for any Eclipse mower made in our 53 year history . . . your assurance of satisfaction for many years to come.

ONLY ECLIPSE GIVES YOU *ALL* THESE FEATURES:

- 4-cycle Briggs & Stratton engine for years of trouble-free service.
- Adjustable reel bearings to assure lifetime perfect cutting adjustment.
- Floating Natural-Grip Handle for maximum operator comfort.
- Automatic self-sharpener (optional extra). Convenient . . . saves time, saves money.
- Positive, non-slipping clutch with fingertip control.
- Elmco-treated steel cutting edges stay sharp longer.

Free write today for your copy of the booklet illustrating and giving specifications for the complete line of Eclipse mowers.

REEL • ROTARY • SICKLE BAR TYPES . .
11 Power Mowers, 18" to 36"
8 Hand models, 16" and 18"



THE ECLIPSE LAWN MOWER CO.

DIVISION OF BUFFALO-ECLIPSE CORPORATION
4405-B Railroad Street • Prophetstown, Illinois

Eclipse power mowers manufactured in Canada by MAXWELL LIMITED, St. Marys, Ontario

Southern Gardens

by JULIA LESTER DILLON

AZALEAS and camellias, which were discussed last month from the variety angle, should be planted now. Without disturbing the roots, plant them the same depth as they were at the nursery. Give them good loam soil and, after planting, put three inches of oak leaves over the roots and then use pine needles to keep the oak leaves from blowing away. Bone meal is all I use on mine and they thrive and bloom freely each year. The nurseries are now selling plants in tin cans which are put into the ground intact, later to disintegrate and allow the roots to reach out for new fertility.

FLOWERING SHRUBS have bloomed now, in many cases, and need to be pruned back in order to grow new wood for another season's flowering. Do this very carefully, taking out the central, heavy shoots that crowd. Your efforts—though tedious—will be rewarding.

CYDONIAS do not permit pruning. If the plants are too low, remove the lower stems entirely, giving clean cuts and painting the wounds afterwards.

BULBS have finished blooming by now and, unless the annual seeds were sown over them in the fall, the picture is very distressing. Perhaps you can remedy this by securing small verbenas and other annuals from the nursery to brighten the barren areas. This should be done now, by all means.

BOXWOOD must be trimmed this month. Take the pieces off carefully and dip each one in a rooting hormone, then plant in a shaded spot where they can be easily watered. With this system your boxwood edgings may be extended from time to time. They grow easily and, after rooting, quickly make fine small plants.

NEW ROSES, planted earlier, must be looked after now. Remove the soil banked around the stems and fertilize and water the plants freely.

VINES should be checked to see that the heavy-growing ones do not take over and crowd out finer stock. The small roots of the interlopers should be pulled out ruthlessly. Keep a close watch on yellow jasmine, Cherokee roses, and the morning-glories, Ipomoea Leari and Ipomoea digitata, lest they get out of hand.

NOW! — NEW MIDGET GARDEN DUSTER

Throws 8 Ft. Dust Stream

WITH JUST ONE TURN of the HANDLE!

GUARANTEES Reaching Your Topmost Branches of Climbers, Ornamentals, Dwarf Fruit Trees!

- **Weighs Only 1¼ lb.!**
- **Treats Over 200 Rose Bushes... With One Filling!**
- **Rustproof Metal Alloy Construction Throughout!**

FREE

A 1 lb. can of the famous Jackson & Perkins Rose Dust given free of extra cost with each duster! Double protection for your precious roses!

HERE'S the duster gardeners have long been clamoring for! Tiny in size—giant in performance. A duster so small it can be held in the palm of your hand—so efficient it treats over 200 rose bushes without a single refilling! And yet for all its compactness, so sturdily and meticulously constructed of metal alloy throughout, *that it will last a lifetime, even with ordinary rough-and-tumble garden use!* And that's not all! *With just one turn* of its comfortable handle this mighty midget will shoot a thick stream of dust *8 feet or more!* Think what this blanket protection can mean to your most inaccessible plants . . . to *all* your precious shrubbery!

How many times have you been able to control the ravages of Black Spot and Powdery Mildew at ground level, only to have the topmost branches and canes sicken and die, because of other weak, ineffective dusters? No longer need you worry about ineffective control because of short-range and clogging dusters or sprayers. With the J-P Midget Rotary Duster, sold only by Jackson & Perkins, you are guaranteed effective and convenient control for all your plants, *or your money back!*

Among its many astonishing features is the genuine rotary power bellows, found only in the finest of professional equipment . . . and its completely effortless ease of operation, no more pumping, no more tired and aching muscles. So easy even a child can use it. Just a flick of the floating handle, and *poof!*—a protective film of dust settles over your plants! And its swivel nozzle enable you to top-dust or under-dust your entire plant with a minimum of effort. Remember how difficult it was to fill the old-fashioned slide dusters? Not with the J-P Midget Rotary Duster! You simply flip back the lid, dump your dust into its generous hopper, snap down the lid and you're ready to dust over 200 bushes!

Entirely constructed of gleaming metal alloy throughout, it can't rust, can't clog. And it stands on its own two solid feet when not in use. No more spilled dust, no more mess. This trouble-free jewel of a duster comes to you with a FREE 1 lb. can of J&P's own miraculous Rose Dust—for the low, low price of only $9.95 plus postage! See for yourself its sturdy, precision construction . . . experience its effortless and flawless operation. Complete satisfaction guaranteed . . . or your money back! *Mail coupon now!*

FOR YOUR ROSE PLANTS and all your GARDEN DUSTING

For Pillar Roses!

GUARANTEED!

The J&P MIDGET ROTARY DUSTER must do all that is claimed for it in this ad, or full purchase price will be immediately refunded. No questions, you and you alone, are the sole judge!

For Dwarf Fruit Trees!

For the Back of Borders!

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JACKSON & PERKINS CO.
670 Rose Lane, Newark, New York

Yes, I want trouble-free and complete protection for my garden! Rush me ..... J-P Midget Rotary Dusters at $9.95 plus 35¢ postage each. Include FREE with each duster, a 1 lb. can of J&P's Rose Dust. I understand I may return duster within 10 days for full purchase price refund if not completely satisfied. No questions asked. I am to be sole judge.

I enclose $.....in full payment.

Name.....

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Jackson & Perkins Co.
World's Largest Rose Growers
NEWARK, NEW YORK • THE ROSE CAPITAL OF AMERICA

Imported DUTCH AMARYLLIS

GUARANTEED TO BLOOM THE FIRST YEAR!

A selection of the finest strains in Holland

NEVER BEFORE AVAILABLE AT SUCH LOW PRICES!

There is no secret to these low prices! Where some importers bring in a few dozen, or a few hundred, **we actually purchased 10,000 bulbs from four of Holland's best growers.** Such purchasing power not only brings the price down, but greatly reduces the cost of importing. All of these savings we pass on to you.

SELECTED GIANT-FLOWERED

NAMED VARIETIES

Selected strains noted for size and shape, as well as height of bloom and free-flowering qualities. Most varieties will produce two stems, each bearing up to 4 flowers. The blooms are mammoth — up to 12 inches in diameter — opening to a round, symmetrical, outward-facing flower that defies description. Available in the following named varieties; guaranteed true to name and color.

DAZZLER. Brilliant orange-red.
FIRE KING. Bright, clear red.
L'INNOCENCE. Pure white.
ORANGE KING. Clear bright orange.
PINK PERFECTION. Carmine-pink.
RED ROVER. Brilliant red. Large.
SALMON QUEEN. Fine salmon-orange.
SCARLET ADMIRAL. Glossy scarlet.
STRIPED BEAUTY. Peppermint stripes of red and white. Large flower.

Guaranteed Genuine Imported Dutch Bulbs — perfectly dormant — will bloom in garden or indoors yet this Spring. Attach list of varieties desired.

$2.50 each, 4 for $8.50

9 Giant-Flowered DUTCH AMARYLLIS (1 of each variety listed) for only $15.00

HAEMANTHUS

The South African "Blood Lilies" are very rare members of the Amaryllis family and are true aristocrats of the bulb kingdom. Easy to grow, they bear hundreds of flowers on a thick stalk. Florets open successively over a long period, and the flower head is the size of a softball. Colors run from salmon-red to deep blood-red. A proud possession. Regular $5.00 to $10.00 values, **$3.00 each, 2 for $5.00.**

GLOXINIAS

The "all-time" favorite pot plant! Our mammoth tubers will amaze you with their size, and in no other tuber is size more important if you want lush foliage and a mass of blooms. Size may vary with varieties, but most tubers are 2½ to 3 in. in diameter.

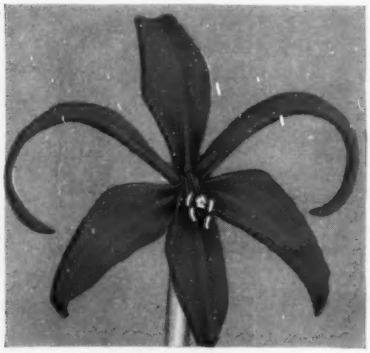
BLANCHE DE MERU. Rose, white throat.
EMPEROR FREDERICK. Red bordered white.
EMPEROR WILLIAM. Purple bordered white.
ETOILE DE FEU. Bright red.
MOUNT BLANC. Pure white.
PRINCE ALBERT. Deep blue-violet.
PRINCESS ELIZABETH. Blue, white throat.
QUEEN WILHELMINA. Dark rose.
ROI DES ROUGES. Deep scarlet.
TIGERINA. Spotted hybrids in shades of purple, blue, red, pink.
VIOLANCEA. Soft violet-blue.

59c each, 6 for $3.00 (Attach list of varieties desired.)
All 11 (1 of each) **for only $5.00.**

CLIVIA MINIATA

(Imported from Belgium)

Interesting, easy-to-flower member of the Amaryllis family. The evergreen foliage in itself is most attractive, making a fine house plant. The flowers are borne in gigantic umbels, bright orange-red in color, and lasting over a long period. Large plants, **$3.00 each, 2 for $5.00.**



AMARYLLIS FORMOSISSIMA

(Sprekelia or Aztec Lily)

A flower of unexcelled beauty. Glistening, deep red, orchid shaped flowers on tall slender stems. Foliage is of a glossy, deep green. Excellent for corsages. Top-quality bulbs only **59c each, 2 for $1.00.**

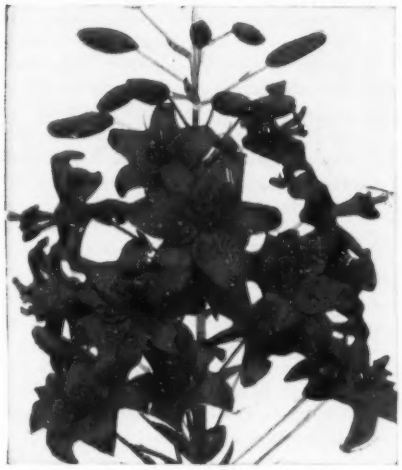
GROWERS EXCHANGE, Inc.
FARMINGTON, MICHIGAN

Amazing TREE PEONIES

(Paeonia Moutan) Truly the "King of Flowers", both in size and stately beauty. A Tree Peony in full bloom is a breath-taking sight, one that dwarfs by comparison most other flowers. Regal in bearing — up to 6 feet tall when mature — and loaded with hundreds of blooms. Nothing can compare with this venerable monarch of the plant kingdom.

Venerable — because the Tree Peony flourished in the mountains of Tibet and China 1000 years ago. Introduced into Europe only 150 years ago, its development and propagation has been slow and expensive, placing them beyond the means of most. One still sees roots offered at $7.50 to $20.00 each.

Three years ago we contacted the largest producer of Tree Peonies, and arranged to take his entire crop. This year the quantity is sufficient to offer them **at a price never before dreamed possible.** The colors available are **Pink, White, Red,** and **Purple. Large Size $2.00 each, 4 for $6.50 (Save $1.50).**



"FIRE KING" LILY

Perhaps the most popular, and unquestionably the most colorful and spectacular of the European introductions. Flowers are recurved, intense vermilion-scarlet with purple-brown spots. Bears massive flower heads of 20 to 30 blooms for over three weeks during June and July. Grow 3 to 4 ft. tall on strong erect stems. Order now and be the first in your community to own this striking new Lily. **Top size bulbs only $1.00 each, 6 for $5.00.**

GLORIOSA ROTHSCHILDIANA

Exotic "Climbing Spider Lily." Sensation of flower shows everywhere, and widely used by florists. The blooms are gracefully reflexed, deep red with golden yellow edge. Discovered in South Africa, and named in honor of the Rothschilds, Gloriosa is very easy to grow and flower, and the unusual cigar-shaped tuber, as well as the fascinating blooms, will create more interest than anything else in your garden. **King-size, top quality tubers, $1.50 each, 4 for $5.00.**

GROWERS EXCHANGE, Inc., Box 24400, Farmington, Michigan

Enclosed is $_____for the stock marked below. Please add 25c for postage and handling on orders under $5.00. Sorry no COD's.

TREE PEONIES
- ☐ $2.00 each ☐ 4 for $6.50
- ☐ Pink ☐ White ☐ Red ☐ Purple

"FIRE KING" LILY BULBS
- ☐ $1.00 each ☐ 6 for $5.00

GLORIOSA TUBERS
- ☐ $1.50 each ☐ 4 for $5.00

GLOXINIA TUBERS
- ☐ 59c each ☐ 6 for $3.00 (Attach list of varieties desired)
- ☐ All 11 (one of each) for $5.00

DUTCH AMARYLLIS
- ☐ $2.50 each ☐ 4 for $8.50 (Attach list of varieties desired)
- ☐ All 9 (one of each) for $15.00

CLIVIA MINIATA
- ☐ $3.00 each ☐ 2 for $5.00

AMARYLLIS FORMOSISSIMA
- ☐ 59c each ☐ 2 for $1.00

HAEMANTHUS
- ☐ $3.00 each ☐ 2 for $5.00

NAME_____ ADDRESS_____

CITY_____ ZONE____ STATE_____

Here's Du Pont Chemistry ...packaged for gardeners!

Du Pont Floral Dust

outstanding for roses — stops bugs *and* blights. No guesswork . . . controls most insects and diseases on flowers, including mildew and black spots on roses. Use as dust or spray. In ready-to-use dust gun and larger sizes.

Du Pont Fruit Tree Spray

stops worms and diseases

Get better fruit. Use this one product all season for finer apples, pears, peaches, plums, cherries, strawberries. In 1-lb. and 3-lb. sizes. Easy-to-follow spray schedule on each package.

Du Pont Lawn Weed Killer

gets rid of broad-leaf weeds

Destroys dandelion, plantain, other broad-leaf weeds and wild onion. Saves the grass . . . just mix with water and spray. *To kill chickweed* in early spring, use reliable Du Pont PC Crabgrass Killer.

Du Pont Aphid & Mite Spray

50% Malathion—kills on contact

Kills aphids, red spider, many other insects. For use on flowers, fruits, vegetables, evergreens and shrubs. Easy to mix and use. Two sizes: 1-oz., and 4-oz. (Four ounces makes 16 to 24 gallons of spray.)

Du Pont Soluble Plant Food

feeds plants fast . . . through leaves or roots. Gives all plants a quick boost. Just mix with water and sprinkle or spray. Can be used with pest-control sprays. Makes an excellent transplanting solution. High analysis, 19-22-16. Three convenient sizes.

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

See your dealer now for these and other proven Du Pont garden chemicals. Quick and easy to use, safe and effective.

Report of the Month

"How I Solved My Worst Lawn Problem"

1st AWARD: Mrs. Ward S. George Chatsworth, Calif.

FOR THREE YEARS in a row after we moved to our new home here, my husband and I purchased our nursery's most highly recommended lawn seed mixture, tested our soil, fertilized it and did everything advocated by the fine bulletins we got from the state college. Every spring we planted what we hoped would turn into a lovely lawn, and every fall we ended up with a most luxurious growth of quackgrass!

The neighbors on either side had long since given up and turned over their lawns to the noxious little "Agropyron repens" (our neighbors from the midwest called it witchgrass.

Since it was impossible to grub it out (each piece of rootstock with a joint can produce a new plant) we enlisted the aid of our county extension agent. He advised control by cultivation. We plowed the infested area in June, using a deep plow with the mold boards turned up so as to leave the furrow slice as nearly on edge as possible. The ground was left in this rough condition for two weeks. About 75% of the rootstock dried out in the sun and was killed. After this the ground was disked and finally given a thorough going over with a deep-tined garden rake.

The ground was then left to fallow for the remainder of the season and was not planted again until the following spring. This time only a few isolated patches of quackgrass appeared and we were able to control them by cultivating during the dry, hot summer months. By fall when the lawn mixture we had sown took hold well, the quackgrass had disappeared and has not returned.

2nd AWARD: Mrs. Edward F. Witomski, Lester, Penna.

"THIS IS THE SOFTEST GRASS I ever walked in. It feels like a rug. What kind of grass did you use?" Over and over this past summer and fall we heard similar remarks. And my husband and I would draw a deep breath and think, not of the grass and seed we sowed, but of the

Your giants eat most of all

See how the twig shows tree growth—two good years, then less and less. Stunted, just like any other thing that's half-starved.

Practically every homeowner feeds his flowers and shrubs. But many a tree goes neglected. Perhaps it is because drilling holes in the ground around a tree to fertilize is such a tough job by hand. Davey experts can feed a huge tree, however, with surprising speed because they have the most modern power equipment in the world. This is why Davey care is so thorough and economical. Call Davey now to feed your trees.

Reading the growth of a tree from a twig is one of several methods for diagnosis used by all Davey men. They are trained in the detection of every type of tree ailment. They will include a general check-up of your trees while feeding them, as part of their service. Look for "Davey Tree Service" in your Yellow Classified Phone book, or write to . . .

DAVEY

Tree Expert Company

KENT 4, OHIO

THE OLDEST AND LARGEST TREE SAVING SERVICE IN THE WORLD

MARTIN L. DAVEY Jr., PRESIDENT

MOSES SENSATIONAL GLADIOLUS

GIANT Collection

Truly exotic Giants of Glad-dom. No larger varieties have been grown anywhere. Just as easy to grow as any variety ever offered, but they may need staking, unless you plant deep or 5 to 7 inches apart.

10 Big Top	Huge pink, cherry blotch
10 Evangeline	Pastel Pink
10 Mid-America	Scarlet
10 Parthiena	Light Purple
10 Patrician	Sensational Lavender
10 Polynesia	Huge Salmon Red
10 Regal Red	Deep Glossy Red
10 White Goddess	Ruffled Snow White

80 Large Bulbs (10 each of the 8 varieties) **$10.40** postpaid, including eight 8 inch Garden Stakes for Labeling

5 bulbs each of the above 8 varieties plus 8 garden labels, a total of 40 Large Bulbs for **$5.35 postpaid**

GARDEN FAVORITES

Really beauties and most are very ruffled adding that touch of refinement.

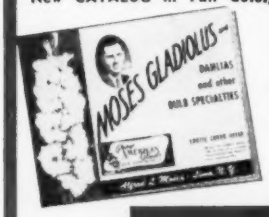
60 Large Bulbs in 6 Varieties, Labeled our selection, plus 6 Garden Stakes for labeling for **$5.90 postpaid**

FANCY DELUXE MIXED

For those who do not care to keep them labeled, this assortment will produce some of the finest blooms. At least 30 distinct varieties of every color imaginable will make up this wonderful assortment.

100 Top Size Bulbs **$5.25 postpaid**
100 Flowering Size Bulbs **$3.75 postpaid**

New CATALOG in Full Color, features best old and new varieties, giants, miniatures, other bulbs. Contains valuable planting information making it easy for any one to grow beautiful flowers. Sent anywhere in U. S. for 10¢, which you may deduct on first order.



EXQUISITE MINIATURE GLADS

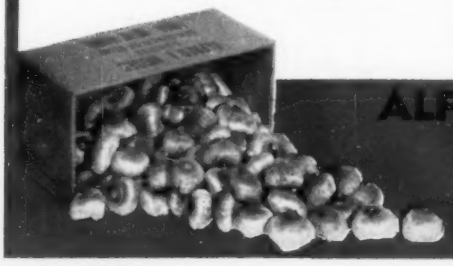
Most lovely of all Glads. These miniature glads are the answer to so many garden flower lovers' demand for smaller, more delicate blooms which would be more suitable for use in small homes, apartments, and for hospital bouquets and special arrangements. They're ideal for many uses and you will surely want to try some this year.

We Recommend

10 Atom	Fiery Scarlet
10 Bo Peep	Ruffled Salmon
10 Flicker	Orange
10 Little Pal	Rose Pink, Cherry Red Blotch
10 Statuette	Ruffled Deep Yellow
10 Osage	Orange Scarlet

60 Bulbs of nice blooming size **$4.90** postpaid,

plus six 8 inch Garden Stakes for Labeling



ALFRED L. MOSES
41 Lake Avenue
Lima, New York

months of work and the small fortune we spent on our lawn before we even discussed grass seed.

We hired a bulldozer to rip up the trees, stumps, scrub and vines. Next came a plow, double-plowing and criss-crossing, tearing out and cutting the tangle of roots. After a light scattering of lime, we sowed seed—not grass seed, but soy beans, rye and oats—and, lightly covering the seed, we turned to the house.

While our "crops" were growing, my husband started to build our home and we watched the house come up . . . and the green come up. When the green was 6 to 8 inches high, in came the plow again and under the grass went. Green manure! We sowed again—soy beans, oats and rye. And again the plow came in and turned it under. More green manure! We sowed a third time and this time when the green was plowed under, it was mid-September.

We had filled in around the house with quarry fill, 39 truck loads. We leveled it off to 8 inches below the final level we desired. We called in the bulldozer again and he pushed all the black, crumbly soil our green manure had made into a great pile. Then digging into the subsoil he scraped and filled until our plot began to take the shape we had hoped for. Then he pushed around the topsoil, spreading and covering the subsoil and quarry fill.

Next came the rotary tiller, churning up the black soil until it was as light and fluffy as face powder. And finally the hand raking, leveling and smoothing.

By this time it was Thanksgiving. We had bought grass seed, expensive seed. Three kinds—one a bluegrass mixture of a very reliable grass seed grower; another, practically the same mixture but with a growth hormone added; and, third, a precious 2 pounds of Merion blue grass with which we wanted to experiment.

One day in the middle of January we saw a slight yellow-green color in patches on our brown ground and each day more and brighter green showed. Our grass grew all that winter and by early spring it needed cutting.

We applied a good lawn food and watched the grass grow. The weeds grew too—and crabgrass. We applied a weed-killer and a series of crabgrass-killer treatments.

This was the summer of 1952. We applied no water. Our grass was growing but it didn't look like the lawn of our dreams. In late September we applied lawn food again and in October the rains came and our lawn grew thick and green and beautiful. Late in November the lawn stopped growing. They say a twelve-month green lawn is impossible in the Philadelphia area.

In February of that winter we had a late snow and over that snow we scattered lawn food. The melting snow

EASIEST WAY TO BEAUTIFY YOUR LAWN... KILL WEEDS AND WOODY PLANTS WITH

WEEDONE®

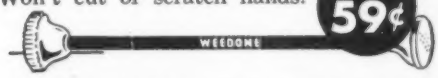
More People Use It Than Any Other Weed Killer

You'll get rid of hard-to-kill weeds, woody plants—problem plants like dandelions, plantains, brambles, poison ivy, poison oak, honeysuckle, and over 100 other weeds and woody plants. Use Weedone regularly and even crab grass won't come up. Miracle Weedone contains the more powerful butoxy ethanol ester of 2,4-D and 2,4,5-T (no vapor injury to susceptible plants nearby). It kills where you aim it. Start your spring clean-up with Weedone and enjoy a weed-free lawn all season.

8-oz. can $1 1-qt. can $2.75 1-gal. can $6.75

Plastic Weedone Applicator

Fits any screw-top gallon jug. Won't cut or scratch hands.



ONLY 59¢

To bring out the real beauty of your lawns, flowers, vegetables, shrubs, feed GRO-STUF — the soluble plant food concentrate.

GRO-STUF is the perfect soluble plant food, indoors and out. It supplies everything needed—nitrogen, phosphates and potash, *plus* hormones and mineral elements. It's ideal for foliage or root feeding; so use it on grass, flowers, vegetables, shrubs—even trees. It's a healthful starting solution for seedlings and bare-root rosebushes.

5-oz. can 49c 1-lb. can $1.25 4-lb. can $3.75

Use ACP ROSE & FLORAL DUST regularly and you'll have complete 4-way protection—against disease, fungus, insects and mites.

To furnish protection against diseases and bugs, ACP ROSE & FLORAL DUST in the handy dust gun is exactly what you need. With it you can handle every attacker as it comes—leaf spot, black spot, anthracnose, powdery mildew, and rust; aphids, leaf hoppers, rose chafers, spider mites (red spiders), thrips, lace bugs, Japanese beetles, and many others.

8-oz. in handy dust gun $1 1-lb. canister $1.49; 3-lb. $3.59

AT GARDEN SUPPLY AND HARDWARE STORES

AMERICAN CHEMICAL PAINT CO. AMBLER, PA., NILES, CALIF.

Originators of 2,4-D and 2,4,5-T Weed Killers

Chemicals ACP Processes

Destroy aphids early as soon as plant buds start to open. Reliable Black Leaf 40® kills aphids quickly and surely by contact and by fumes. Also kills leafhoppers, most thrips and soft-bodied sucking insects on flowers, vegetables, fruits and shrubs. One teaspoonful makes two quarts of powerful spray that doesn't let insects develop resistant strains. Black Leaf 40 spares the bees, leaves no harmful residue. Also repels dogs.

Kill lawn insects the quick, easy way with Black Leaf 5% Dieldrin. The non-dusting granules broadcast evenly, penetrate to the ground quickly, kill ants, lawn moths and chinch bugs, Japanese beetles and white grubs, earwigs, wireworms, cutworms and ticks, chiggers and grasshoppers. Powerful and economical.

Get rid of hard-to-kill scale insects, mites and many chewing insects with Black Leaf 50% Malathion Spray. Kills even the tough adult scales that winter over. *Kills chewing insects* such as Mexican bean beetles and tarnished plant bugs. *Destroys the tiny mites* that turn foliage brown and lifeless in hot weather.

ALWAYS LOOK FOR THE BLACK LEAF on the RED AND WHITE PACKAGE

See your garden dealer for these other reliable Black Leaf products

FOR FLOWERS, FRUITS, VEGETABLES, SHRUBS AND LAWNS:

Lime Sulphur Spray · 5% Chlordane Dust · CPR Garden Insect Killer · White Oil Spray
25% Phygon® Fungicide · 10% Lindane Spray · Slug and Snail Pellets · Arsenate of Lead
45% Chlordane Spray · 1% Rotenone Dust · Garden Dust · 50% DDT Wettable Powder

TO DESTROY WEEDS AND BRUSH:

2,4-D Weed Killer · 2,4,5-T Brush Killer · Arsenical Weed Killer · P-C Crabgrass Killer

FOR HOUSEHOLD USE:

Pyrenone Aerosol Insect Killer · Black Leaf Fly Spray · Mouse Killer Bait
11-36 (DDT) Aerosol Insect Killer · Rat Killer Bait · Rat & Mouse Killer Concentrate

carried it down to the roots of the awaiting grass and they grew and the grass grew. That spring our lawn was beautiful and the talk of the town.

Another summer came, hot and dry. Again the weeds and crabgrass-killer treatments. We did not water our lawn, and as our grass lost its color elsewhere we began to see the Merion bluegrass! There had been no trace of it the summer before and now we had a sizeable patch of bluegrass in the hottest part of the summer.

Summer continued long in '53. We fed our lawn again in early October and the rains came and the grass grew. It grew and stayed green until the last week in December! Then a hard frost came and the grass became crunchy under our feet. But on mild sunny days it seems to pull itself up and stand erect. A winter lawn, but still beautiful!

3rd AWARD: Mrs. Alice Niemiec, Chicago, Ill.

THE GROUNDS IMMEDIATELY surrounding my summer home in northern Wisconsin presented a unique problem during the time when I, like so many gardeners, made the mistake of attempting to solve all my ground cover problems by sowing grass seed. In our situation, this just did not work!

The site we chose to buy was attractive to us mainly because of a swiftly running brook which cut through the land about three yards in from the road. The heavily forested, gently sloping land also appeared restful and we pictured our log cabin in a clearing with a murmuring brook, rustic bridge and a gorgeous landscape.

We succeeded in establishing a clearing, a log cabin and a rustic bridge. We concluded that ours was a situation where lawn was not the answer to the ground cover problem. We decided to try another group of plants known as ground covers. We chose for the sloping area behind the cabin an evergreen plant, Japanese spurge (Pachysandra), which is about 6 inches high, thrives in a wide range of soils and tolerates wet, shady locations. Since the plant growth is uniform and limited, the necessity of mowing was eliminated. We found that this perennial slowly spread and that it was easy to propagate by dividing the plants or by cuttings. We are extremely satisfied with the uniform mantle of green this plant provides—its interesting leaf pattern and its tiny white flowers. In our research we found many plants which could be grown as substitutes for grass: Scotch broom (Cytisus) for sandy places, English ivy and lily-of-the-valley for the north side of buildings, periwinkle for densly shaded places and many more. [SEE PAGE 22]

KUNDERD'S BEST-AMERICAN GLADS

OUR 74TH YEAR
Famous All Over The World

direct from the grower

You cannot go wrong in buying AMERICAN GROWN GLADIOLUS BULBS for weeks of enjoyment throughout the Summer Months for your American Garden. They are gorgeous, large flowering specimens of glorious new and recent introductions that will give you a thrill in every bulb that blooms.

When you buy "DIRECT FROM THE GROWER" you buy from one who is experienced in producing Gladiolus Bulbs for the finest results obtainable. The bulbs offered on this page are all TOP QUALITY bulbs, grown in the very best Indiana Sandy Loam soil, properly cured and treated for easy home garden culture.

Our **AMERICAN GARDEN COLLECTION** of varieties are all proven sorts that will grow both for cutting in bouquets and exhibition purposes. ORDER AS MANY COLLECTIONS AS YOU WISH — NOW! WE WILL SHIP AT PROPER PLANTING TIME.

famous all over the world

We feel very proud indeed to celebrate our 74 Years with the Gladiolus. Quite a lengthy period of time devoted to growing, developing and serving so many thousands of customers. We are happy indeed to be able to give enjoyment to so many gardeners who make this earth such a fine place to live in. We hope we can continue to please for many years to come.

guaranteed to bloom

KUNDERD'S NATIONALLY ADVERTISED GLADIOLUS BULBS are shipped all over the world with confidence. We guarantee our bulbs to produce flowers to your satisfaction. The bulbs are STATE INSPECTED to be FREE of DISEASE, treated for Gladiolus Thrip. Plantings may be at intervals of ten days until July 1st, for a continuous blooming season until frost.

see the new 1954 kunderd catalog

Enjoy absolutely FREE our New 32-page Catalog, with beautiful illustrations of colorful varieties of Gladiolus. Information on how to grow gorgeous Glads in your Garden. Popular Prices on over 225 varieties. You will also receive other literature on Gardening from time to time.

Send postcard today for your **FREE** copy — do it now!

Our many years of experience go into making up the fine name kinds and colors that you will receive in this collection of 50 Bulbs. They will come labeled as correct name, 5 Bulbs each of 10 Gorgeous Varieties. COLORS AND VARIETIES LISTED BELOW.

OUR AMERICAN GARDEN COLLECTION

FLORENCE NIGHTINGALE — Tops in a pure white variety.
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50 bulbs in all for only **$3.00 POSTPAID**
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FREE!

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Order Now . . . . . No Delay

BIGGEST GLADIOLUS VALUE IN YEARS

30 Amazing Colors

15 Varieties of Bulbs — 2 Bulbs each ..... **$1.00 ppd.**
(Not Labeled)
Guaranteed Blooming Size
No. 3's — 1" to 1¼" Diameter

3 COLLECTIONS (90 Bulbs) ..... **$2.50 ppd.**

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Please send me POSTPAID the Gladiolus Collections as indicated below:

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50 Bulbs for $3.00	100 Bulbs for $5.50	200 Bulbs for $10.00	30 Bulbs for $1.00	90 Bulbs for 2.50
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BEFORE THEY GROW

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TRADE MARK
HERBICIDE-1

It's so easy to let CRAG Herbicide-1 do your weeding for you. Just dissolve it in water and apply with a sprinkling can or sprayer. Then for more than a month CRAG Herbicide-1 will do your weeding—by killing weed seeds as they start to sprout!

Use it in vegetable and flower gardens, in the shrubs and evergreens around your house, and around trees and hedges.

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4 oz. can—weeds 3,000 sq. ft. for more than a month.

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4th AWARD: Mrs. Anthony J. Alexander, Cleveland, Ohio

MY WORST LAWN problem was the fact that the nasty job of installing it had to be done by me. My husband was conveniently out of town all spring and our finances didn't stretch far enough to include a professional installation.

Our soil difficulties were compounded by the builder's having spread the subsoil from the basement excavation over what meager topsoil did exist on our small lot. This clay, striated red, blue and gray, was plastic enough so that our little boys could mold of it all kinds of fantastic figures.

On March 15, contrary to all that I had read and heard and especially contrary to the good, free advice of our generous nurseryman, I decided to go into action. I trench-dug the embryo lawn to a depth of 14 inches. Some of the time, I felt I must be digging up concrete, at other times, it seemed to be a particularly vicious kind of gluey quicksand.

As I worked I found the most amazing treasure trove: beer cans, bricks, pieces of lumber and sewer pipe and even an old rubber boot. At length, the entire section had been turned over and I had worked in 6 cubic yards of sand, 50 pounds of agricultural lime (our soil had tested slightly acid), 20 pounds of fertilizer and a bale of peat moss. Then "The Rains Came"! Never had I seen so much rain! When the soil finally dried out, it was almost as hard as it had been before. I learn the hard way. As I dug it up the second time I worked in two more bales of peat moss.

By now the calendar said May and 14 yards of topsoil and my husband arrived simultaneously on a Saturday morning. But my poor, unfortunate husband broke his foot two hours after his arrival, so unwillingly I went on with the job. Luckily we live on the friendliest little street in the world and ten able bodied and helpful neighbors, armed with wheelbarrows, rallied around us on Sunday to spread the topsoil, apply 20 more pounds of fertilizer and grade the lawn.

Three days later I sowed 5½ pounds of a special shady lawn seed mixture the nurseryman had combined for me. Then I rolled it, covered it with straw, fenced it off and settled down with a garden hose to await developments.

The lawn is now going into its third year and if I don't say that it is a firm, well established, thick turf, it's because of my hypocritical modesty.

Editor's Note
For next month's subject for "Reports of Month," please turn to Page 129.

MAKE GARDENING EASY!

With ARIENS Super Model

Yardster

ROTARY TILLER

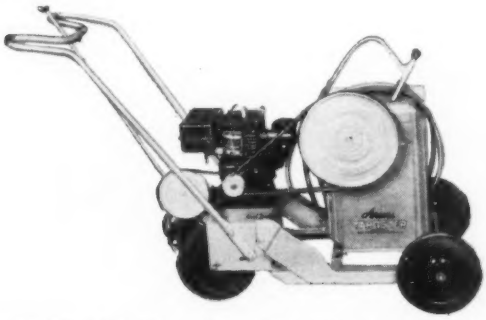
PREPARES LEVEL, AERATED SEEDBED WITHOUT SPADING; CULTIVATES—KILLS WEEDS—ALL SEASON LONG WITHOUT HOEING

You have to *see* it and *try* it to believe it! Just flick on the engine, and your Ariens Yardster does all your garden preparation and cultivation work. Self-propelled with optional wheel drive—you merely guide it! Tills 12" wide, up to 6" deep, to use close to plants, between rows, under low shrubs. Precision-made by America's oldest, and most experienced, rotary tillage manufacturer—thousands in use! The price? Surprisingly low!

ONLY ARIENS YARDSTER HAS ALL THESE FEATURES!

Powered by economical 2 h.p. famous-make engine. Two 10" cog-tire wheels with optional 2-speed wheel drive. All steel construction for long, trouble-free service. New, non-winding, non-breakable steel "L" tines. All steel hood provides complete side and top protection—an Ariens exclusive! Improved anti-friction bearings; ball-bearing rotor. One-piece, tubular steel handle—adjustable for height. Fingertip control for tiller unit and optional wheel drive.

ROTARY MOWER . . . Cuts toughest weeds, mows finest lawns velvety smooth. Aluminum hood with new glide-pan support to prevent turf scalping. Quickly attached to Yardster tractor.



POWER SPRAYER . . . for field, orchard, garden or yard use! 200-pound pressure. 5-gallon capacity. Mounted on all-purpose carrycar. Like rotary mower, available as an attachment or complete unit.

INTERCHANGEABLE ATTACHMENTS OFFER ALL YEAR, WORK-SAVING OPERATION . . .

. . . in addition to self-propelled mower and power sprayer shown at left: rotary Sno-Thro to clear 16" path through light or heavy snow; all-purpose carrycar to use with paint sprayer, electric generator. Accessories: recoil starter depth wheel, litter disc stirrer, recoil starter.

See your dealer or write:

Ariens

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CHASES DOGS and CATS from LAWNS, SHRUBS & TREES
Stops dogs and cats from making their withering visits. Place patented, inconspicuous, "DOG-CHECK APPLICATORS" in the lawn, or hang on shrubs and trees, where necessary. Dogs and cats turn tail and quickly depart from wherever "DOG-CHECK" has been applied.
ONE APPLICATION LASTS UP TO TWO WEEKS
Save furniture . . . use DOG-CHECK powder indoors. 35c and $1.00
Large bottle with 12 patented "Applicators" $1.00
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"THEIR LAST MEAL"
LIFE SAVERS FOR LAWNS
Moles are destructive — They ruin lawns with their runways, uproot costly bulbs, damage plant roots and demolish seed beds. Why tolerate Moles? . . . simply punch a few holes in their runways . . . drop in MOLE-NOTS. Moles consume them and die. Successfully used for 20 years.
ONLY 35c; ECONOMY SIZE $1.00
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ALBA—Large narcissus-like snow white.
ALICE—Glorious double silvery pink.
MARGARETE—Very double bright pink.
PRINCE HENRY—Rare rose red double.
SEPTEMBER SPRITE—Lovely dwarf rose. Single.
5 plants, 1 each $3.50 postpaid
15 plants, 3 each $9.50 postpaid

NEW CHRYSANTHEMUMS
These new English sorts are the very finest of all garden Chrysanthemums. Extremely early. Gigantic blooms often 6" or more in diameter.
ALBION—Beautifully fluffy snow white.
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West Coast Pointers

by NORVELL GILLESPIE

If you're an impatient gardener, then you'll enjoy gardening in April for things happen fast in California and Southwest gardens. Whether it's planting seeds, setting out bedding plants or installing a new lawn—you can literally see the results almost overnight.

In the Pacific Northwest, it's a busy month for sowing summer annuals, planting perennials, summer bulbs and vegetables, as well as the opening of the pruning season for hedges and evergreens. Seed sowing dates depend on soil temperatures, rate of maturity of the crops or flowers involved and the usual gamble with the weather on frost dates.

Mobile Garden

Potted and tubbed plants for portable color has really come into vogue all over the West in the last few seasons. The fact that plants can be quietly kept in out-of-the-way spots until the first rewarding blooms of color, means that key points in the home landscaping can always be kept in peak condition of color by utilizing a few dozen plants.

Mobile gardens can look good nine or more months of the year with just these key selections: Marguerites, either white or yellow; geraniums and pelargoniums, in a vast color range; tuberous begonias, fuchsias and cinerarias for shady spots; tubbed azaleas, camellias, and rhododendrons; and, in the class of heavy-blooming annuals, scarcely anything touches the lavish and continuous show offered by petunias.

Several secrets are involved if you are to enjoy real success with pots or tubs of mobile plants. See that they get watered daily—especially when the weather is hot and dry, give them *light* but consistent feedings every two weeks with quick-acting chemical fertilizers, or organic liquid fish, pinch off faded blossoms, nip occasionally to keep the specimens bushy and stake them.

You may wonder how much time will be consumed in these daily chores. Actual records prove that 20 minutes a day will more than take care of two dozen plants.

The use of redwood tubs around clay pots means that plants will not dry out so easily. All dealers have husky redwood containers in all sizes, in many shapes, ranging from small planter

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ROTO-HOE
Complete as shown
$134.

TAKE IT EASY! ROTO-HOE will do the hard work for you—will make gardening and lawn care a pleasure. And it will usually pay for its modest cost the first year!

ROTO-HOE uses the famous 2 h.p. Lauson gasoline engine to rotate its 15 specially hardened teeth (12 teeth optional) at high speed, thoroughly tilling and aerating the soil up to 6" deep. You can till, prepare and cultivate your garden, mulch in organic material to build up soil fertility, or till and prepare new lawns, or renovate old lawns—all is easy when you have a ROTO-HOE.

ROTO-HOE is *not* an experimental machine—it was the first "tiller-on-front, wheels-on-rear" machine back in 1936. Tens of thousands have been sold, and dealers tell us their ROTO-HOE owners are their most enthusiastic customers. Recently other machines have come out copying many of the ROTO-HOE ideas, but we haven't seen any yet which offered as much for the money as ROTO-HOE.

SAVE HUNDREDS OF DOLLARS

Each year more and more thousands of gardeners are purchasing ROTO-HOE and attachments. The many attachments are so inexpensive that you can afford to buy them all for much less than most other equipment of comparable quality. Remember, you get the *Complete* ROTO-HOE (as shown at left) for only $134. And that same basic power unit operates all attachments. This means tremendous savings for you.

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ROTO-HOE dealers are located all over U. S. and in Canada.

Write today for name of nearby dealer where you can see ROTO-HOE and attachments and arrange for a demonstration.

Shows ROTO-HOE and attachments in actual use in full color! Tells the full ROTO-HOE story, clear, complete, easy-to-read. Send coupon for your free copy today.

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You Can Be Sure of Greatest Values Due to Musser's Huge Volume—

20 MILLION Trees a Year!

Musser's scientific planting and growing methods, plus astounding annual volume, means that you will get the most for every dollar in MUSSER trees and nursery stock. These trees have heavy roots and the extra good start to develop into beautiful specimens in just a few years. Buy direct from the grower for best values.

—All These Offers are POSTPAID—

25 TREES for $5.

3 to 5 year old, healthy selected trees, 6" to 16" tall. Five each of: Colorado Blue Spruce, Norway Spruce, Austrian Pine, Scotch Pine, Douglas Fir. All 25 postpaid at planting time for just $5. One of America's outstanding values!

HOLLY

6 Plants $5.95 POSTPAID

Six plants of 2 varieties:
4 HARDY AMERICAN HOLLY; green leaves and red berries. (Pyramidal tree-type) 3 female plants with red berries, one male plant for pollen.
2 JAPANESE HOLLY (an evergreen shrub-type plant).
All 6 above plants 4" to 6" high with a mass of roots, from 2½" pots. Postpaid at planting time.

Foundation Planting SPECIAL

10 TREES $9.95 Postpaid

An ideal start at minimum cost. All trees twice-transplanted and branched.
5 JAPANESE YEW—upright, compact, cone-shaped with dense rich green foliage. Does well in sun or shade. 10" to 16" tall.
5 PFITZER JUNIPER—beautiful blue-green foliage, a fast growing spreading type evergreen for sunny spots 10" to 12" tall.
All 10 trees above shipped at planting time for only $9.95 postpaid.

BLUE SPRUCE Trees

5 FOR $3.50

The famous COLORADO Blue Spruce. All excellent 6 year old transplants from 8" to 14" tall. Blue-green to marvelous blue color foliage; sturdy trees, handsome as specimens or hedge. 5 trees postpaid at planting time for $3.50.

EXTRA SPECIAL! 6 Rhododendron and 6 Azaleas

ALL 12 PLANTS, only $5.95

2 year transplants 3" to 8" tall in individual planting bands with abundant fine roots, large leaves. Both varieties hardy, prefer partial shade and acid soil. Rhododendrons—Hybrid seedlings from red plants; Azaleas—3 orange, 3 red. An outstanding value, gorgeous flowers, beautiful foliage. All 12 plants shipped at planting time in special safety shipping carton for only $5.95 postpaid.

DWARF ROSE HEDGE

10 for $4.75 POSTPAID

LOW GROWING (Rosa Rugosa)
Ideal backyard or garden fence, formal or informal. Easily trimmed. Two year seedlings 10" to 18" tall. Bear red and white flowers 2½" to 3½" in diameter; clusters of brick-red berries in the fall. An almost ever-blooming low garden hedge. All 10 plants postpaid at planting time for only $4.75.

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baskets to giant boxes 30 inches square. Prices are reasonable, too.

Summer Bulbs

Though dahlias can be planted for the next three months, it's a good idea to set out a good grouping right now. The nurseries will have tubers of new varieties ready for planting. Your own dahlia clumps from last season should be divided carefully, cleaned off and dusted with lindane, then they'll be ready for planting. In light, sandy soils, set the tubers 7 to 8 inches deep. Heavy soils should be broken up with liberal use of Canadian peat moss and a chemical soil conditioner. Set redwood stakes in the ground at planting time so you won't hit the tubers at a later date. Tie labels firmly to the stakes so that identities won't get mixed up.

The easy way to feed lawns is this hose attachment which mixes liquid fish fertilizer with water for easy application.

Arizona and Southern California greenthumbers should get the first planting of dahlias into the ground as soon as possible. Wait another couple of weeks in the Pacific Northwest.

General list: here's your check list of other summer bulbs ready for planting—gladiolus, tigridias, cannas, callas, crinum, caladiums and tuberous begonias. The latter two can be started in shallow flats of vermiculite or half Canadian peat moss and half coarse sand. The others can go in the open ground in sunny spots.

Chrysanthemums

While next month is the big month for setting out 'mums, early varieties purchased now at the nurseries will extend the season of bloom.

Bedding Plants

In California and the Southwest, you'll be able to select a great number of summer-blooming annuals that are on sale at the dealers. If you prefer to start your own from seed, there are many choices.

Most of these will supply color from summer on into fall and frost time: sweet

you can have the most beautiful lawn in your neighborhood with *Energized* **Vertagreen®**

Feed energized Vertagreen to your lawn and garden and you'll see marked new beauty in just a few days' time. And the Vertagreen beauty treatment lasts for weeks, because the nutrients in Vertagreen remain in the soil for long-lasting feeding. Vertagreen is used by leading golf courses and top professional growers. It is the analysis recommended by leading authorities on lawn care. Give your lawn, flowers, vegetables, trees and shrubs a Vertagreen beauty treatment.

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Prize Flowers Flowers grow larger, more colorful when fed with Vertagreen.

Easy to Apply Professional Vertagreen care is easy. Just spread Vertagreen and water thoroughly.

Vegetables Vegetables are more nutritious and larger when grown with Vertagreen.

ARMOUR FERTILIZER WORKS

alyssum, amaranthus, asters (try the new Powder Puff strain—attractive small blooms good for cutting, more color per square inch of garden space occupied than anything else in the aster line), annual coreopsis, balsam (stands terrific heat—I saw them flourishing in the sticky warmth out in the mid-Pacific on Wake Island), candytuft, annual chrysanthemums, Unwin bedding dahlias, celosia (Golden Fleece, a '53 introduction, proved its garden worth up and down the whole Pacific Coast), cosmos, gourds, strawflowers, marigolds, nasturtiums, portulaca, (specially good for color for parking strips), nicotiana (the white variety is recommended for its valued fragrance in evening gardens), salvia, sunflower, tithonia and zinnias of all kinds. Remember that the zinnias are real heat lovers. East of the Cascades in Washington and Oregon, they will need to be started indoors or in greenhouses.

Chemical Weed Killers

Why waste hours patiently plucking out weeds from paths, parking strips, brick walks or driveways? It's tough work and they'll soon be back. The easy way to dispose of weeds in such areas is the use of the time-tested arsenic trioxide weed killer that sterilizes the soil and prevents plant growth for a year or more. Just dilute it with water in a sprinkling can, then sprinkle it on as described on the label by the manufacturer.

Science even offers other helps in the chemical weed control department. For instance, in the Pacific Northwest, especially, IPC grass killers have been employed to clear out weeds growing at the base of iris clumps, roses, perennials and many other plants without harming these ornamentals.

There's an imposing list of chemical crabgrass killers at all the nurseries. In Arizona and the Pacific Southwest the first application should be made in mid-April. In the Pacific Northwest first applications should be made in early May.

Strawberries and Cream

It's a great month to plant strawberries—a planting month when they're particularly resistant to disease troubles. And this year, so many wonderful varieties! Check your nurseryman. No doubt, he'll warn you that strawberries require protection. Strawberry root weevils, for instance, are easily controlled by dusting the ground at the base of the strawberries with lindane. The lindane acts quickly to make short work of weevils. Again, the dust on the foliage controls those frothy masses created by spittle bugs—a pest increasingly active as the weather warms up.

Strawberries set out now should pro-

WHAT TO LOOK FOR WHEN YOU BUY A MOWER

2 out of 3 NOW CHOOSE All-Purpose ROTARY Design!

And no wonder! No other type of mower does so much: Grooms your lawn velvety smooth; cuts down tall grass and heavy weeds, then "chews" them fine; "mulches" clippings to end raking chores, help nourish your lawn; trims close to buildings, trees, walks, curbs to eliminate hand trimming. And GOODALL *pioneered* the rotary mower 16 years ago. GOODALL designs are *basic*. GOODALL has the know-how and experience!

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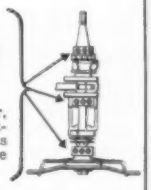

This means more power, faster starting, better cutting, longer life with less service trouble and far more operating economy.

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There are scores of thousands of satisfied Goodall owners. They are Goodall's best salesmen. Ask anyone who has ever used a Goodall. They'll tell you..."*There's no mower like it!*" See Goodall now—at your dealers. Available in seven styles and sizes from 17" to 26".

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Blackberry Shrubs

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6 for only $ 2.98 postpaid
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Thousands of folks have gotten up to 6 gallons of Blackberries from just one Bush . . .

Yes, big luscious, tasty-looking clusters of 7 to 30 berries each. These Blackberries grow tall enough for trees to keep your juicy rich Blackberries off of the ground and wide enough to make beautiful ornamental bushes, either for arrangement or hedge or border, making a beautiful shrub plant so you don't have to go out into the woods or fields to pick your Blackberries. You can have them right in your own front or back yard. Yes, friends, through this sensational new Super plant, you can have ALL the berries you can eat . . . plus a lot to sell.

These Super Blackberries will grow anywhere in the United States and require no cultivation. Just plant them and watch them grow those juicy, delicious Blackberries the first year.

If you prefer C.O.D. shipment, you pay the postage and charges

Postage is paid on prepaid shipments

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duce their first crops in 120 days or less. Get out the pitchers of cream!

April Planting Reminders

Mid-April is a wonderful time (wait about 3 weeks longer in the Northwest) to fill up the bare spots in the garden with plants that will guarantee lots of color. The list seems almost endless—in the final analysis, it is only the size of your lot and the size of your pocketbook that counts.

New Carnations

Cutting-grown carnations are available now at the growers. The newly-rooted plants range from 4 to 6 inches high and are available in plant bands, pots or flats. If you are a real carnation collector you will want some of the named varieties such as Pink Charlotte, beautiful pink; Northland, white; Sirius Cloud, white with a pink stripe; and Delaware, buff with red stripe. Other good ones are Miller's Yellow, an exceptionally strong grower; Scarlet King, a variegated red and white novelty; Dairy Maid, white ground, heavily striped pink toward the edges of the petals; and Barbara Brigham, orange-apricot with pink pencillings.

Cultural conditions for carnations call for: light and porous soil, full sun, perfect drainage, staking supports to prevent floppy plants, twice-a-month pest and disease control with an all-purpose spray or dust mixture and light feeding once a month.

Dwarf Geranium

Other noteworthy novelties in the nurseries these days are dwarf geraniums. They're really low—only 6 to 9 inches high at maturity! There are about a half dozen of these novelties but there are two dwarf types, Pixie and Madam Fournier, that are especially good for pot culture.

By growing them in full sun the green foliage is so deep that it appears to be almost black. Fertilize lightly once a month. Spray twice a month with one of the new improved lindane sprays to kill the cabbage worms that chew the leaves and eat the flower buds.

Pouch Flower

One new plant that will not be found at all growers is the new Golden Nugget calceolaria, brought out by a Pasadena nursery. Perhaps you know it under its common name of pouch flower. It grows 18 to 20 inches high, the foliage is light green and the pure yellow pouch-like calceolaria blooms appear from May 1 to October 1.

Camellia Bargains

Many of the nurseries are now having camellia sales and it is possible to save quite a bit of money. Some of the unusually good varieties are Blood of China, deep salmon red; Jordan's Pride, pink streaked with white and deep pink; Rosita, rosy pink; and Purity, beautiful pure white. Camellias really grow rapidly if given a partially shaded spot in a loose soil with plenty of Canadian peat moss in it so that the fibrous roots will enjoy the acid reaction.

Improved Cannas

Cannas, once available only in gaudy colors, now are available in softer tones which fit better in border color schemes. The lanky height has been cut down so that the plants are lower and bushier growers. Instead of ranging up to 6 feet in height, these are content to stay at the 3-foot level. Ask your nurseryman for the Grand Opera series for these improved cannas. These are available with such appealing names as: La Traviata, Rigoletto, La Boheme, Aida, Mignon,

CALIFORNIA SPRAY-CHEMICAL

Soil conditioner is a basic first step for handsome lawns. Worked into earth, it aids germination, keeps grass healthy.

and Madam Butterfly. Once grown only for their tropical effects, cannas now are being cultivated purely for the fine colors which they add to the garden.

The roots should be planted now that the ground is warmed up. A rich soil with plenty of rotted manure will help develop fine plants. Give them lots of water during the growing season and check them against aphis, thrips and other bug infestations. Use an improved lindane or one of the all-purpose spray combinations to rout them. Snails and slugs attack the young plants when they are first popping through the ground, so scatter bug-type metaldehyde pellets or dust with a slug dust control.

Northwest Hedges

All through the Northwest British Columbia, it's safest to rely on a hedge which is going to be hardy for years to come. Garden hobbyists in Victoria, B. C., for example, revised their opinion of Monterey cypress as a hedge after the severe winter of '49-'50. Formerly it was popular because of its low price.

APRIL 1954

Monsanto Garden Page

Questions and Answers about Krilium®

SOIL CONDITIONER

Why it can be THE GREATEST THING THAT EVER HAPPENED TO YOUR GARDEN

Q. How does Krilium help things grow?

A. Any plant—annual, perennial, bulb, shrub or tree—is as strong as its root system. Growth and bloom above the ground depend on abundant growth of roots below. Krilium promotes full root development by making the ground crumbly and porous, easy for roots to penetrate.

Q. How does Krilium do this?

A. It makes tiny soil particles stick to one another in tiny spongelike clusters which resist packing down. Water and plant food seep through this loosened soil easily. Roots flourish and stretch out farther because they don't have to fight their way through heavy, hard-packed soil. More hairlike feeder roots develop and pick up food. Oxygen, vitally important to healthy roots, gets down deep into the soil.

Q. Is Krilium a fertilizer?

A. No. Feeding plants is no problem today. Krilium performs an entirely different and most important function that precedes feeding. It corrects the soil structure. It creates the kind of soil that helps plant food work faster. It prepares soil in the way greenhouse men prepare soil before planting.

Q. Aren't there other ways of doing this?

A. Yes. They are more expensive—require more time, skill and work. For example, one pound of Krilium is equal to one ton of peat moss in soil conditioning effect. Furthermore, organic conditioners are attacked by soil bacteria; break down and must be replaced.

Q. How long does Krilium last?

A. In test areas treated with Krilium, the soil remains easy to work, spongy, porous, in good tilth—four years later. Season after season the ground stays friable, easy to cultivate even after rains.

Q. Will rains wash out Krilium?

A. No. Krilium once bonded with soil won't dissolve. Like a sponge absorbs water, soil treated with Krilium absorbs moisture . . . keeps topsoil from washing off. Even on slopes, hard rains won't cut furrows in Krilium-treated soil.

Q. Is Krilium helpful during droughts?

A. Yes, Krilium conserves moisture, delivers it to roots fast, helps plants weather long dry spells. Krilium-soil soaks up water—it doesn't run off.

Q. How do I know my soil needs Krilium?

A. Unless your soil "springs" under foot, unless it crumbles easily in your hand, it needs Krilium. If it forms mud puddles or hard crust, it needs Krilium. If you're losing topsoil, you need Krilium. If you have a "clayey" soil of any type, you need Krilium.

Q. When will I see the results of Krilium?

A. Krilium is effective immediately. Once you turn it in to the depth you desire and water lightly, you have "greenhouse soil." You'll see the results this very season in healthier plants, faster growth, more prolific bloom. Krilium in seedbeds and flats will give higher germination, less loss from damping off.

Q. Isn't Krilium terribly expensive?

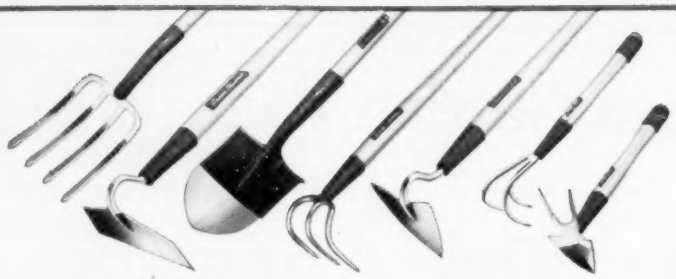
A. That's answered in every answer on this page. Compare the cost of 5 pounds of Krilium with 5 tons of peat moss . . . with the replacement cost of a single evergreen, several yards of sod, a load of topsoil. Krilium is a long-term investment that keeps on paying for years to come.

Greenhouse evidence that Krilium really pays!

AT BLAIR NURSERIES, Blair, Neb., carnations in soil conditioned with Krilium outproduced other carnation plantings 3 to 1. With Krilium they grew so fast that 30-inch stems could be cut in October. Notice prominent nodes indicating rapid growth. All stems were strong and tall, some as high as 39 inches.

MONSANTO CHEMICALS—PLASTICS

GARDEN PRODUCTS



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But the occasional heavy winters every seven to ten years rule out such borderline plants.

These are reliable suggestions: English holly, stays dense to the ground, forms a good hedge to five feet, needs trimming only once a year; Japanese barberry, or its purple-leaved form, makes dense, dog-proof hedges about 3 feet high. Trimming is required once a year, even though deciduous beautiful red berries hang on all winter; English yew, probably the prince of all hedges, remains dense from the ground level to a height of 15 or 20 feet with only an annual pruning (when I visited England, I found yew hedges planted during the reign of Henry VIII still in top condition and still only 6 feet high.)

For taller hedges or windbreaks consider the graceful blue-green Lawson cypress which needs no trimming and can be topped at the desired height or Portuguese laurel, a neat high hedge or windbreak with glossy green dark leaves.

April Check List

1. LAWNS This is a good time to repair old lawns or plant new ones. Don't skimp on the cost of seed as you get only what you pay for. Check your dealer for the best "mix" for your area.

2. SEEDS Many flowers and vegetables can be planted now. Curb your enthusiasm for planting *too much*, specialize in improved varieties whether growing ornamentals or crops to eat.

3. AZALEAS AND RHODODENDRONS Occasional periods of hot weather hit Southern California. See that azaleas and rhododendrons still in flower or in the bud stage are kept moist. Once they are allowed to dry out, it's hard to save this year's flower crop. The new high-pressed peat moss which has been specially processed so it pours out of the package as easily as sugar is especially valuable for quick mulching.

4. ROSES Rose bushes in California and the Southwest should be sprayed or dusted every week to ten days to beat the spring hordes of aphis and other pests. Add a 26 per cent calcium polysulphide to your all-purpose spray to prevent mildew, black spot and rust. Established rose bushes can have their first plant food of the season; let newly planted ones this season go another 60 days before applying fertilizer.

5. RANUNCULUS Here are the secrets of prolonging the blooming season of ranunculus: pick off faded flowers, apply lots of water and give a light feeding of plant food or liquid fish fertilizer.

Horticultural Events

Don't miss the big California Garden Show at Oakland, April 30 thru May 7.

Get set for the National Convention of the American Rose Society scheduled for San Francisco, May 13 thru 16. More news next month.

April Pointers

Now is the time to plan for shade trees

by P. J. McKENNA

SPRING IS HERE! It's time to cease musing and put plans in motion. To save time and expedite the work check the plans for spring and summer. Spring is so fleeting and growth so rapid. that plants must be in as early as possible. However, take time out to visit display gardens and well-planned plantings in order to keep up with the best in bulbs and ornamental plants and compare your own efforts with doings elsewhere.

At the first sign of good weather there is a tendency to remove all covering from winter-protected plants. Go carefully here. Be sure that the weather in your section has settled. Caught in a late frost, some plants that made tender growth under the covering will be injured. Gradual removal is best. Roses can be uncovered and pruned. Rock garden and other herbaceous plants may have to wait a little.

Plants ordered earlier (I hope) will be arriving. Unpack at once. Plants that look dry must be plunged in water for 24 hours. If direct planting at once is not practical. heel them in (dig a trench, lay the tops or stems against one side then cover the roots with soil). Plants exist only when they have plenty of moisture. Loss of this from roots or stems means injury or total loss. So early planting is a must in gardening. To save moisture further the tops of all shrubs, roses and similar plants should be cut back. Buds lower on the stems have more moisture, are more vigorous and the plant gets off to a better start. The outer tips of evergreens are sheared but not the branches. In the shade trees, maples, oaks, etc., the side branches are reduced. Do not cut the leading shoot. Injured areas are cut off all roots.

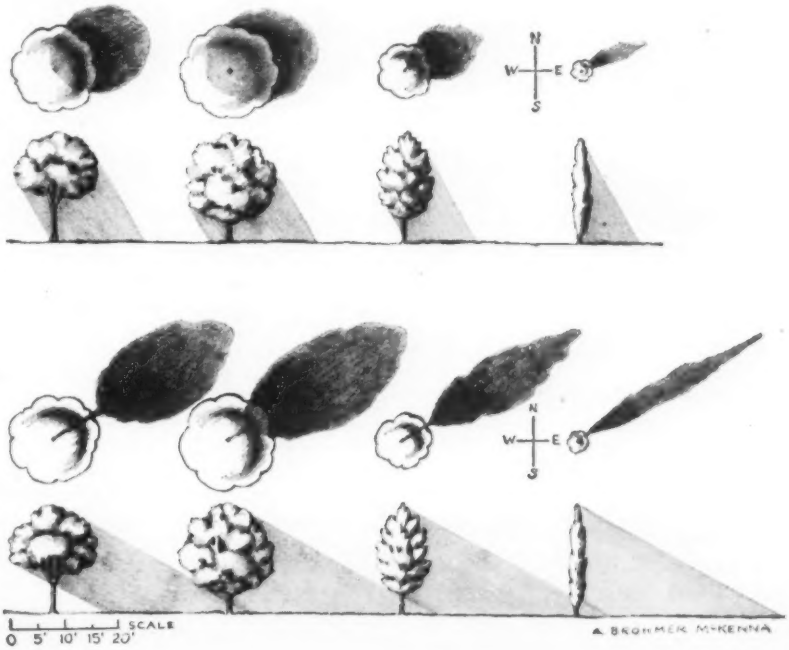
Shade Trees

Of major importance in landscaping, trees must be chosen with care. Their sites must be carefully selected also. Here are a few points that will help you. If the tree is to be used near the house or terrace for shade purposes, select one that is free from pests so spraying is no problem. The tree must be strong structurally to avoid breakage in storms; it should, where possible, have ornamental value too. But above all keep the size within the scale of the property. This rules out, for the medium to small property, such as weeping willow, sugar maple, the heavy oaks, plane tree and the native sycamore. Silver maple, poplar, willow, and similar trees are also unwise choices because they are too brittle and because their roots seek out and fill drain and water pipes.

For shade purposes the tree is placed with regard to the path of the sun. If only one tree can be used its exact placement is determined by the particular time of the day shade is needed. In the morning the sun is southeast. At noon it is directly overhead so there is no shadow except directly under the tree. To shade the roof, the tree would be placed near the house. But as the sun drops towards the west in the afternoon, it will shine under the tree and onto the windows or terrace. Most use is secured from one tree in the afternoon by setting it at a point between south and west of the house or terrace and at a distance related to the spread of the tree and its height. A tree some 40 feet tall (and this is suitable for most places) will have an approximate spread of 30 feet, with some 15 feet either side of the trunk. To get maximum coverage the tree is set about 20 feet from the house, or terrace. At the southwest point it will catch the early afternoon sun and provide shade for most of the afternoon. Where two trees can be used the shade can be distributed over a greater area.

The Better Trees

Scarlet, red or swamp maple is one of the better maples. Extremely ornamental in spring and fall, it has a lighter effect than the sugar or Norway maples. The



Pick shade tree locations with care and forethought

Location of shade trees should be planned with their future growth in mind. In the afternoon, when shade is most desirable, trees planted to the southwest of the house or garden will shade porch or patio. Trees planted too close will later throw shadows too high or far away from where it is needed. Sketches show the approximate length and direction of shadows of 20-feet trees at 3 P.M. in June (top) and late August (bottom). Varieties should be strong, ornamental and require no heavy spraying against insect pests.

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white or greybarked variety is the most ornamental. Yellow wood, one of our native trees, is highly ornamental and free from pests. Sweet gum, which develops into a tall tree, and pin oak are two excellent subjects. The moraine locust, weeping birch and canoe birch are tall trees of light appearance. Others include hophornbeam, sassafras and the true Chinese elm. All are suited to the small, or medium sized property. For the regions of the far Northwest and Canada there are hawthorn, common hackberry, swamp maple, green ash, weeping birch and black walnut. Many varieties of crabapple are also suited.

Pruning Flowering Vines

Because the growth of flowering vines is little understood, pruning is too infrequently done and the vines are allowed to become a tangle. The best flowers are not possible unless there is a constant supply of young growth encouraged by removal of the old.

The clematis group, because plants flower at different times, is difficult and pruning must be based upon flowering schedules. Clematis montana and its varieties flower in spring on the stems made the previous year. Pruning is done after the flowers have faded. Vigorous, hard pruning is needed to keep the vine within bounds. If desired, it can be cut to within 2 feet of the ground and it will grow to as much as 15 feet in the months following. If the main stems are on a wall or trellis, side growth may be cut back to the main stems.

Clematis paniculata, flowering in September, is pruned just before growth starts in spring and cutting can be just as drastic. This, too, is a most vigorous climber. If the vine stems are trained up separately in spring and not allowed to twine on each other (this is desirable for all clematis) it will cover an area at least 10 feet wide and 15 feet in height in a season. Of the summer-flowering varieties none is so successful or dependable as Jackmani. This is pruned in spring too, but not as severely as the two previous varieties. Leave all the main stems but cut the string-like stems that are attached. Then reduce the number of main stems, removing two or more at the base to start younger stems.

The summer-flowering hybrids are pruned on the basis of the particular type to which they belong. The Jackmani type, like the parent, is pruned in spring, the flowers being produced upon the present season's growth. The group includes, Comtesse de Bouchard, Mme. Edouard Andre and Mrs. Cholmondeley. The viticella type, also flowering on new growth, are spring-pruned. They include, Ascotiensis, Lady Betty Balfour and Ville de Lyon.

The florida and patens types on the other hand bloom best on two-year-old

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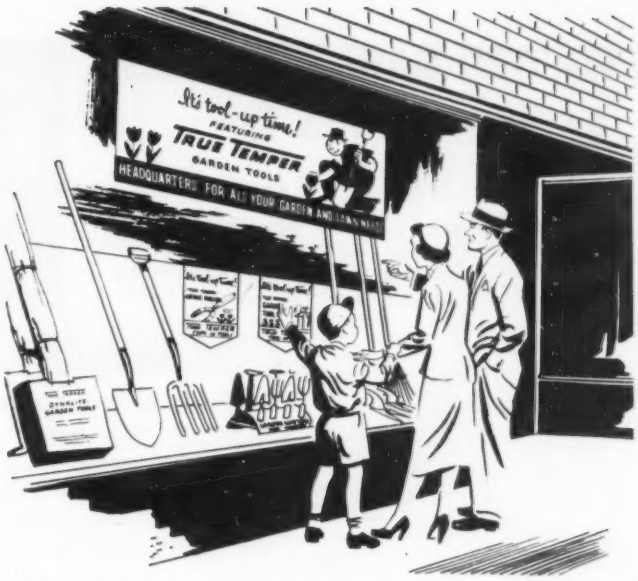

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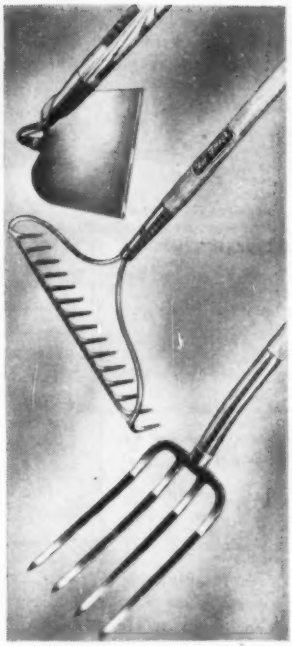

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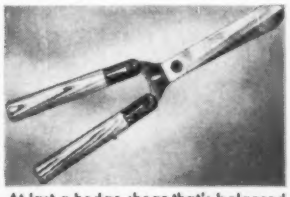

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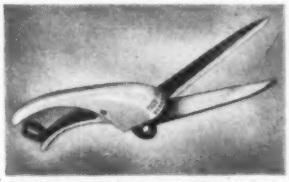

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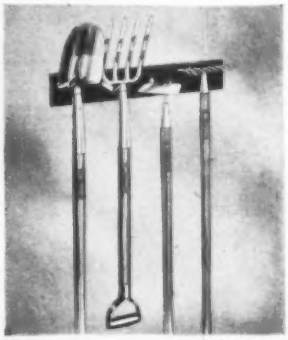

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stems. Pruning is done lightly in spring, cut out dead or dried up stems as well as crowded stems. Shorten some of the side shoots at the same time. If the plants are growing too tall the longest shoots can be trimmed, though this is best done immediately after flowering. The patens group include Edouard Defosse, King of the Belgians and Standishi. The florida type has Duchess of Edinburgh, Belle of Woking and Countess of Lovelacs.

New plants are best cut back to within 6 to 12 inches of the crown. The crown should be 2 inches beneath the normal soil level. Use a soil that has plenty of bone meal but not too much active chemical fertilizer. Manure if used, should be well rotted. Fresh manure causes wilt disease.

Trumpet creeper, both the species radicans and Mme. Galen, flower on summer growth. They are supported against walls by stem rootlets and a framework of main stems should be maintained. Then in spring cut all the lateral (side) growth back to this framework. After the vines are several years old, it is best to take out one or two of these old stems right at the base to start young stems on the way. Old stems may loosen after a few years and come down in a storm.

Roses

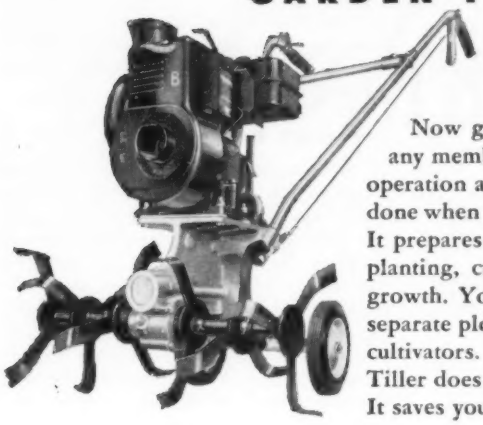
After uncovering the roses examine the plants. Those that are weak, badly injured or crippled from last year's drought or disease should be removed. Do not compromise. Poor plants will not respond no matter what treatment you give. Replace them with vigorous plants in better varieties—not necessarily the most recent novelties but those that have stood the test of time and still remain good.

Our friends in Minnesota and colder parts of the Northwest would be wise to try the subzero roses. The shrub rose class includes, Everblooming Autumn Bouquet and Temptation and among hybrid teas the following have proven themselves: Dick Wilcox, Cedric Adams, Henry Field and Queen of the Lakes. Crimson Glory has also given satisfaction as a hardy hybrid tea. Gruss an Teplitz will survive with some winter protection. This is an everblooming tea, the only variety fully hardy. Hansa, Sarah Van Fleet and Amelie Gravereaux, all in the hybrid rugosa class, are also good choices.

General Planting

All fruit trees and plants, strawberries and bush fruits are set out this month in well prepared soil with lots of organic matter provided by compost or manure. Peatmoss or leafmold can be used but with these you will need fertilizer. This can be dried cattle manure or a chemi-

GARDEN TILLER



Now gardening's a cinch for any member of the family. Just 1 operation and ground work's done when you use the Choremaster. It prepares seed bed, furrows for planting, cultivates at any stage of growth. You no longer need separate plow, disc, harrow and cultivators. Choremaster Garden Tiller does it all with *one* tool. It saves you space, time and money.

easy does it . . . when you use a

CHOREMASTER

ROTARY MOWER

Mowing's fun for any member of your family . . . and safe, too, with the Choremaster Rotary Mower. It's designed for fast, safe, comfortable lawn and weed cutting. The Choremaster "fine cuts" an 18 inch swath . . . gives full trim because wheels and handles are within cutting radius.

AND . . . no leaves to rake or burn in Fall
In the Fall, you can replace mowing blade easily with Choremaster's low-cost leaf-mulcher attachment that pulverizes leaves into fine fertilizer.

Write TODAY for dealer name, FREE literature!

Made by the Manufacturers of CHOREMASTER
World's Number One Wheel Garden Tractor

CHOREMASTER DIVISION
WEBER ENGINEERED PRODUCTS, INC.
842 Evans St., Cincinnati 4, Ohio

GARDEN TRACTORS • TILLERS • ROTARY MOWERS • POWER HOLE DIGGERS • CHAIN SAWS

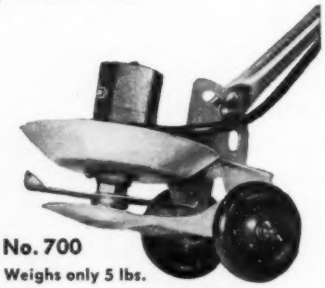
You'll have the neatest, trimmest lawn in town—and without tiresome, tedious hand trimming.

The Seymour Smith Electric Lawn Trimmer *rolls along on wheels,* swings easily side-to-side, too. Cuts grass and even tough weeds smooth and clean—and pulverizes the cuttings as it trims. In a matter of *minutes* the average lawn will be neat as a pin along walks, garden edges, fences, tree trunks, etc. And the machine performs so easily and efficiently that you'll have enjoyed every minute of it.

SEYMOUR SMITH
ELECTRIC
LAWN TRIMMER

BACKED BY THE BEST KNOWN NAME IN GARDEN TOOLS

Written guarantee with every machine • Powerful, AC-DC motor • Slip-clutch protects cutter knife and motor from damage by obstructions • Easy one-hand or two-hand operation • Sharpen cutter without removal • Handy holder for cord.



No. 700
Weighs only 5 lbs.
Only $29.95

Remember the name **SEYMOUR SMITH**

For over a century (the life work of 4 generations) Seymour Smith has specialized in top quality garden tools. Everybody knows the Seymour Smith *"Snap-Cut" Pruner.* It has no equal, nor do Seymour Smith *Hedge Shears,* "made like a tailor's shears." And Seymour Smith *Grass Shears* do the smoothest, easiest job that can be done by hand. Your dealer has Seymour Smith garden tools — or can get them for you.

SEYMOUR SMITH
FIRST NAME IN GARDEN TOOLS
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SEYMOUR SMITH & SON, INC.
41704 Main Street, Oakville, Conn.

"SNAP-CUT", "PROFESSIONAL" AND SPECIAL PRUNERS • PRUNING SAWS • TREE PRUNERS AND TRIMMERS • GRASS SHEARS • HEDGE SHEARS

cal preparation. The complete chemical fertilizers are very often made up as formulas for different regions, localities or crops. Inquire which is best for your region. The 5-10-5 is a general all-purpose fertilizer available nearly everywhere.

Planting Hedges

A hedge is a long-term investment and preparation for its planting must be thorough. Evergreen hedges, especially, need a soil well dug below the subsoil. Setting expensive plants into compact subsoil invites failure. These plants are too costly for anything but properly prepared soil. It is best to dig a trench, break up the subsoil and incorporate whatever organic matter is available—from peatmoss to manure. Use a heavy dressing and mix in superphosphate. The evergreens are set 2 to 2½ feet apart, depending on their size. The smaller, 2 to 3 feet size, plants will give a thicker growth than the taller ones.

Deciduous plants, those that drop their leaves in winter, are set 18 to 24 inches apart. Run a line along the center of the trench to keep the row straight. This should be above the soil at a level with the base of the plants above the roots, to guide the depth of planting.

It is convenient if two persons work together, one holding each plant while the other shovels in soil.

The Coldframe

Most hardy plants, the vegetables and annuals can be transplanted in the garden in the milder zones. Others will need a period of hardening off before they can be moved out. Room must be made now for the tender vegetables, tomatoes, peppers, eggplant and the like, that cannot be set out until warm weather. But these must be given room to develop else they will be spindly. In preparation for transplanting, they should be set in plant bands (squares of light wood open at top and bottom), in the cold-frame or, several in a flat, they may be filled with a good soil mixture and a plant or seedling set in each. At planting-out time the band is removed or slit and the plants are set out with no check whatever.

The coldframe needs careful management. The important phases are watering and ventilation. When the frame is tightly closed the temperature can rise quickly towards midday. As soon as the temperature within the frame begins to rise, the covering sash should be lifted slightly on the side away from the wind. A direct current of air blowing into the coldframe will cause losses in young plants. All watering is done in the morning when the temperature is rising. The leaves must be dry in the evening when the sash is closed. Young plants must be given all the light possible in spring for stocky growth.

Modern Gardener

How to weed your lawn and garden with chemicals

by P. P. PIRONE
NEW YORK BOTANICAL GARDEN

ALTHOUGH the hoe is still a most important tool for controlling weeds, there are many situations where weeds can be checked more efficiently and economically with chemicals. As a matter of fact, controlling weeds with chemicals is now a well-established practice in growing certain crops. For example, Stoddard Solvent, long used as a dry cleaning fluid, is now used to destroy weeds growing among young carrots and other plants of the parsley family including parsnips, dill, fennel and celery. Chemicals are also used as a supplemental weapon in controlling weeds in such important farm crops as corn, wheat, oats, rice, cotton, peanuts and sugar cane.

The turning point in the battle for weed control with chemicals occurred about 10 years ago with the discovery that certain growth-modifying chemicals, particularly 2,4-D, could be used to kill weeds efficiently and cheaply. At present nearly 25 million acres of small grains and corn are treated each year with 2,4-D alone.

The great strides in chemical control of weeds, however, have not been confined to large scale, agricultural use. Chemical herbicides for lawns, gardens and other situations are readily available to every property owner and home gardener. But there can be no guess work in using them. They must be applied uniformly and exactly as directed because even a slight variation in the rate of application may fail to kill the weeds or may injure the crop.

Weed Control in Lawns

On large lawns or heavily infested small ones, hand weeding is not only exhausting, time consuming and expensive but frequently futile because at certain seasons weeds come up so rapidly that the gardener cannot keep ahead of them.

Dandelions, plantain and certain other broad-leaved weeds are quickly and economically destroyed with a single spraying of 2,4-D solution. This is possible because of the selective action of this chemical, which destroys broad-leaved plants but leaves the desirable, narrow-leaved lawn grasses relatively unharmed. Several important precautions must be observed when using weed killers containing 2,4-D. These precautions are listed on the container together with directions for use.

Crabgrass is perhaps the most common lawn pest in many parts of the country. Although 2,4-D applied to young plants will give some control, several other chemicals do a better job.

The two most common types of crabgrass killers now on the market contain either phenyl mercury compounds or cyanates. The former are more effective early in the season, during June and early July, when the crabgrass plants are small. The latter work best in late July and August when the plants are large and have begun to root at the nodes.

The gardener should bear in mind that the best preventative for crabgrass is a good vigorous stand of permanent grasses. Hence the chemicals should be used to help in establishing a vigorous lawn. But the gardener must also correct the conditions which encourage crabgrass!

Home owners who plan to start a new lawn this fall will want to hear of a good way to have a weed-free seedbed. Mixing the chemical known as Cyanamid into the prepared seedbed, three

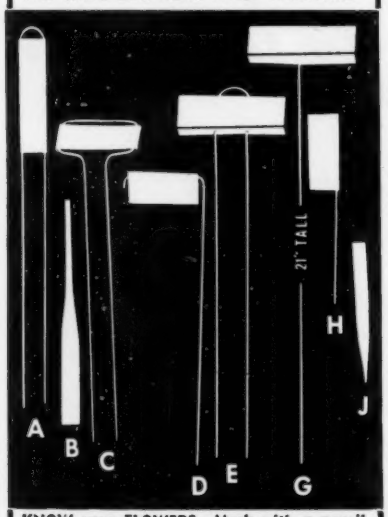
Before applying a "weed preventer" such as Crag Herbicide-1 in a flower garden (top), remove weeds and cultivate soil. The chemical may be applied with aid of sprinkling can and should eliminate any need for weeding for three to six weeks.

The weeds shown above between the rows of corn could have been stopped before they reached this stage by a chemical.

Before the corn in this weed-free plot above was over 2 inches tall, Crag Herbicide-1 was sprayed between the rows.

GARDEN MARKER

NEW 21" TALL DOUBLE GALVANIZED STEEL Wire with White Zinc Name Plates STANDARD



KNOW your FLOWERS. Mark with a pencil. Names stay on. Enjoy your garden more.

ORDER NOW WHILE AVAILABLE

9 DIFFERENT STYLES

Prepaid: Add 10% west of the Rocky Mts.

A—12 INCH HAIR PIN TYPE
3-inch lock-rim Name Plate which can be replaced in a jiffy. Look neat in the garden, nice for Iris and Roses.
20 for $1.00; 100 for $3.80
Extra lock-rim name plates 1½¢ each

B—7 INCH LABELS WHITE ZINC
Permanently mark trees, shrubs and plants. Pencil marks stay through rain and snow.
100 for $1.00; 500 for $4.00

C—GARDEN MARKER
9 inch steel wire standards and shielded WHITE-ZINC NAME PLATE which may be marked on both sides. You will like this improved marker.
18 for $1.00; 100 for $4.00
Extra Zinc Plates Without Wire—100 for $1.25

D—11" SWINGING LABEL
1" x 2½" Zinc Name Tab secured to 9 inch STEEL Standard, adjustable, nice for tulips.
25 for $1.00; 100 for $2.80
Special Weatherproof Pencil 10¢

E—11½" OK ROSE MARKER
Name plate has wide flanges with four accurately spaced holes thru which stiff STEEL standards freely slide up over the tilt into secure position. A new plate can be put on easily. The price is a little higher for this better marker but worth it.
15 for $1.00; 100 for $5.00

F—21" TALL DOUBLE WIRE STANDARD
Name Plate same as E. 12 for $1; 100 for $7
Name Plates Without Wire—100 for $2.50

G—21" TALL for home garden easy to read
Single Wire Staff. For Tulips, Glads, Iris, Day Lilies, Tea Roses, showing well above foliage, no samples.
Prepaid: 25 for $1.50; 100 for $5.50
Extra Name Plates—100 for $2.25

H—8" POT LABEL for Rock Gardens
USEFUL IN THE GREENHOUSE
"Handy as a pocket in a shirt." Penciled names defy moisture, heat and weather. Neat, Modest and Durable. Strong Steel wire sticker. White Zinc name plate. Low cost permits generous use.
Prepaid: 30 for $1.00; 100 for $2.50
Extra name plates not available

J—4" VIOLET LABEL
Made for African Violets and other small house plants. Useful to the hybridizers for labeling cuttings. Pointed WHITE ZINC strip 7/16x4".

TRIAL KIT To acquaint new customers with our markers and labels we prepay Three each of A, C, D, E, H, J, and 25B together with a weatherproof pencil all for $1.00.
100, 80¢ 1000, $5

EVERLASTING LABEL CO.
Box 93, Paw Paw, Mich.

to four weeks before seeding the grass, will assure a weed-free lawn from the very start. Details on this method will appear in this column later in the growing season.

Pre-emergence Weed Killers

One of the most interesting weed killers developed in recent years, already available in small packages for home garden use, is a close relative of 2,4-D sold as Crag Herbicide 1. This material is a pre-emergence weed killer, that is, it kills both germinating and very young weeds including chickweed, crabgrass, pigweed and purslane. It does not control weeds after they have got very large. Nor does it harm cultivated plants with well-established roots.

Crag Herbicide 1 is unusual in that it is inactive when first applied to the soil but becomes effective as soon as soil microbes act on it, changing it into 2,4-D. At the start of the treatment, the soil must be free of any large, established weeds.

Thus far Crag Herbicide 1 has found its greatest use in beds of established vegetables such as corn, lima and snap beans, asparagus and small fruits such as strawberries and raspberries. It is also recommended as a pre-emergence weed killer around established shrubs and evergreens and in perennial flower beds, bulbs and roses. A four-ounce package of the material is sufficient to treat 3,000 square feet of garden and one treatment will prevent regrowth of certain weeds for three to six weeks.

Several other materials capable of destroying germinating weed seeds have also been developed. Premerge and Sinox E, both dinitro compounds, are effective in controlling weeds in gladiolus, particularly when these chemicals are sprayed on the soil just as the first gladiolus shoots begin to emerge.

Alanap, yet another pre-emergence herbicide, is usually applied after the crops are planted but before the plants emerge because it will injure certain kinds of leaves. Members of the cucurbit family are more resistant to it. Hence weeds in cucumbers, muskmelons and watermelons may be controlled even after the crops have emerged from the soil or have been set out in the garden.

Other Weed Killers

Among some of the other general purpose weed killers now available or soon to be available are the following:

Endothol which not only controls many kinds of weeds but which also has the selective power of destroying clover growing in golf putting greens.

Carbamates are used to control chickweed in strawberries and annual grasses in onions. The newest member of the carbamate group is known as CIPC.

Goodrite NIX destroys small succulent

I never hesitate to recommend Tri-Ogen since it has served me so well.

Harold H. Allen

Champion Prize Winner of National Rose Show, where he won American Rose Society Sweepstakes Medal, J. Horace McFarland National Trophy, and five other first prizes for a total of 73 points—an all-time record.

TRI-OGEN
WORLD'S LARGEST-SELLING GROUP OF
ROSE "GROW-ers"

Don't take chances with your Roses. Insidious insects, infectious fungus diseases and starvation may rob you of blooms, foliage and, even your plants—*unless controlled.*

TRI-OGEN 3-WAY ROSE SPRAY

Combination Insecticide, Fungicide and Foliar Stimulant. Long proclaimed as finest spray ever developed. And now—with widespread acceptance of foliar feedings—Tri-Ogen Spray is more popular than ever. Contains a combination of time-tested insecticides; it kills off both chewing and sucking insects. A general fungicide, it controls both black spot and mildew. A stimulating "tonic," which is absorbed through foliage. "E" trial size $1.50. Other kits $2.35, $6, $9, $30.

TRI-OGEN 3-WAY DUST "GUN"

This famous 3-Way Dust is now packaged in a new handy refillable gun-type container. Ready to use, it enables you to apply lindane, ferbam, DDT, sulphur and other insect and fungus controls—*all at one operation!* And, in properly balanced amounts, without weighing, blending or fuss. This modern way cuts to a fraction the dusting time normally required to give the protection and care every Rose bush needs. 10-oz. "gun" 98¢. 1-lb. can $1.19. 5-lb. $5. Also drums.

TRI-OGEN 3-WAY ROSE FOOD

An amazing, scientifically-balanced energy food of *both* inorganic (quickly assimilable) and organic (long-lasting) ingredients, *plus* hormones, vitamins and the vital trace elements now recognized as so essential. Tri-Ogen feeding is the satisfactory way of obtaining healthier stronger plants, extra-large full-color flowers and longer periods of bloom. In bags, 5-lb. $1; 10-lb. $1.70; 25-lb. $3.20; 100-lb. $9.40.

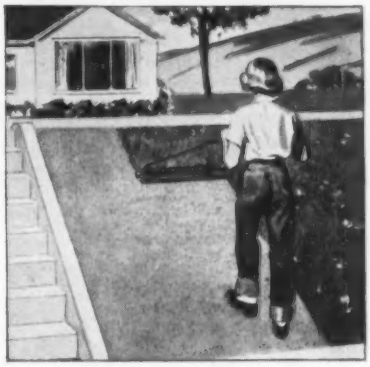
Tri-Ogen is available at better stores everywhere. Or direct. Illustrated booklet showing 10 easy steps for growing fine Roses sent free. Rose Manufacturing Company, 145-44 Ogen Bldg., Beacon, N. Y.

Experts' THE SECRET OF FINE ROSES

You can do the whole job with a MONTAMOWER

The MontaMower smoothly cuts a full 16" swath of grass, cleanly cutting all the dandelions and tall lawn weeds which the reel-type mower leaves standing . . . no more going back over the lawn with a whipper!

The MontaMower "Trims-as-it-cuts" right up close to fences, trees, buildings, walks, shrubs, flower gardens and cement walls. Practically eliminates all hand trimming!



The MontaMower is so light, so sturdy and responsive that even women and teenagers can mow steep terrace banks, up, down, or across, with scarcely any effort!

The MontaMower eliminates back-breaking hand trimming. Unlike the conventional mower this versatile machine is actually two efficient tools in one . . . mower and trimmer!

Only MONTAMOWER *Trims as it mows — In one easy operation*

The versatile MontaMower is actually "Two-Tools-In-One" . . . an efficient lawn mower and a very fast lawn trimmer. Due to its unique, patented design, it is the only machine that does the *whole job* of lawn cutting and trimming in one easy operation. Its live, precision mechanism first gathers, then smoothly cuts a clean 16" swath through grass, dandelions and tall lawn weeds as evenly as a pair of keen-edged shears. It cuts right up to trees, walls, fences and borders . . . "Trimming-As-It-Cuts" . . leaving practically no back-breaking, time-consuming work to be done by hand. Enthusiastic owners throughout the world tell us the MontaMower is the most practical hand lawn mower ever designed! Even power mower users say it's a "Must" for close-quarter mowing and all the trimming! Fast, efficient and weighing only 9½ lbs., you'll find it's the most wonderful work-saver and time-saver you've ever had for lawn care.

HERE'S HOW IT WORKS Eight pairs of newly designed, Self-Cleaning and Self-Sharpening, precision made and fitted, tool steel cutting discs revolving toward each other gather the grass and cut it cleanly with a new shearing action. Newly designed handle with comfortable form-fitting rubber grips is easily adjustable to change cutting height of grass. The MontaMower's drive shaft, with factory sealed bearings, is permanently lubricated to assure *smooth, trouble free* performance and long life. SOLD WITH OUR WRITTEN GUARANTEE!

TRY THE VERSATILE MONTAMOWER ON YOUR OWN LAWN . . . ON APPROVAL!

An actual trial on the lawn where it is to be used is the most convincing proof of the exclusive advantages of a MontaMower and its superiority to conventional mowers. We know this to be a fact that over 30 years of successfully selling the MontaMower direct from factory to user (hundreds of thousands are now in world-wide use). We have, therefore, developed a most attractive "TRY IT ON YOUR OWN LAWN ON APPROVAL OFFER" for those who are definitely in the market for lawn mowing equipment of one type or another. Don't miss this opportunity to see for yourself how invaluable the MONTAMOWER would be to you! Act NOW! Fill out the coupon below . . Mail it today!

WRITE FOR DETAILS OF OUR ATTRACTIVE TRIAL OFFER

MAIL COUPON TODAY
PASTE ON POSTCARD

MontaMower Distributing Co., Sales and General Offices
FO-44 KEELER BLDG., GRAND RAPIDS 2, MICHIGAN

Gentlemen: Kindly send me (FREE OF CHARGE) completely illustrated, descriptive literature, price, guarantee information, and full details of your attractive "TRY IT ON YOUR OWN LAWN ON APPROVAL OFFER."

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SOLD DIRECT ONLY — NO AGENTS — NO DEALERS
HOWEVER, YOU CAN PAY FOR YOUR MONTAMOWER THRU OUR OWNER'S COOPERATION PLAN!

How to Spray the Easy Way

With Bradson Garden Sprayers Water Pressure Does the Work

LIKE A NOZZLE, this new type sprayer goes on your garden hose. It sprays *any* material you mix with water to apply, *liquid* or *powder*, without clogging. Even arsenate of lead and Bordeaux mixture. You don't carry a tank. You do no pumping.

PUT YOUR SPRAY MATERIAL — insecticide, fungicide or weed killer — in the jar. Then spray away! A *Bradson* sprayer *automatically* mixes proper amount of spray material with water from the hose. After use, remove jar and flush sprayer; it takes only 30 seconds!

KILLS MORE PESTS because it gets *both* sides of leaves. As with costly power sprayers, spray comes in a steady stream, not irregular puffs. Plant is *drenched* with soft, misty spray. No dry safety zones are left for bugs. With a Bradson hose-end sprayer, you do a *thorough* bug killing job.

Choose From 3 Models

Insect-O-Gun
3 gal. spray capacity with pint mason jar furnished; substitute a quart jar and you have a 6-gallon sprayer. Automatic valve; turned on it stays on, turned off it stays off. Deluxe pistol grip model. $5.95.

Gard-N-Gun
1½ gal. capacity with half-pint jar furnished. Automatic valve. Ideal for small gardens. $2.95.

To Treat or Fertilize an Average Lawn in Only 13 Minutes...

Gro-Gun sprays big volume fast, *any* fertilizer, lawn treatment, weed killer you mix with water to apply. Great for spraying trees. 20 gal. capacity with qt. jar furnished; replace with ½ gal. jar from kitchen for 40 gal. $2.95.

Every sprayer fully guaranteed.
At garden dealers, or order from:

THE BRADSON COMPANY, INC.
North Hollywood 3, Calif.

weeds and has no hormone or soil-poisoning effect. It kills only the leaves it actually wets.

Phenyldimethylurea, one of the newest herbicides not yet generally available at this writing, is designed to kill deep-rooted perennial weeds such as bindweed, quack grass, Johnson grass and Bermuda grass.

CMU and Polybor-chlorate can be used to control weeds in areas that are difficult to mow or where complete control of vegetation is desired.

Woody plants such as poison ivy, wild brambles and unwanted trees and shrubs can be killed with 2,4,5-T or mixtures of 2,4-D and 2,4,5-T. Although these are

extremely harmful to broad-leaved plants, they are not toxic to humans and animals when used at the recommended weed-killing rates.

Finally, undesirable woody plants, poison ivy in particular, can be destroyed with ammonium sulfamate, sold under the trade name Ammate. This chemical is more practical to use on small city properties because there is no danger that its fumes will drift and damage nearby desirable plants, and because the usual amount of rinsing will remove all harmful residues from the spray tank and hose.

•

Scientists at the University of Wisconsin recently announced the isolation of a new antibiotic, oligomycin, which looks very promising as a control for fungus diseases of plants. Heretofore other antibiotics used on plants were effective in controlling diseases caused by bacteria only.◈

CMU Weed Killer

• CMU, one of the most effective chemical weed killers now in commercial use, has been found to be a new weapon against weeds in established asparagus beds. This material, manufactured by the Du Pont Company, when used in high concentration—40 pounds per acre—will keep an area free of all vegetation for an extended period of time. When used in low dosages on asparagus beds — two pounds per acre—four weeks before and immediately after cutting, it has kept the bed free of annual weeds and grasses for eight weeks or more.

Field trials with CMU on asparagus were conducted throughout the country and tests have been made to assure safety to consumers.

Mallow or Hardy
HIBISCUS
ANNIE J. HEMMING
Pl. Pat. 835

Beautiful luminous red. Large 6 to 7 inch flowers. Blooms July, August and September. Hardy, bushy 4 to 5 foot perennial with dark-green foliage.
A two year plant bore 250 flowers in one season.

2 year heavy plants:
$5.00 EACH 3 FOR $10.00 ppd.

EASTERN SHORE NURSERIES, Inc.
P.O. Box 743 Easton, Maryland

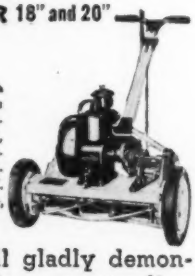
Dollar for Dollar you can't beat a Cooper

Cyclo-mo

TRIMMER TYPE Power Mower
18" and 20" Cutting Widths

Lighter weight, maximum safety. Closer trim, contour cut - NO SCALPING. Desirable leaf mulching action. Briggs & Stratton 4-cycle engines. Simple height adjustment from 1½" to 3½".

"KLIPPER" REEL TYPE POWER MOWER 18" and 20" Cutting Widths



Enclosed Diamond chain drive. Timken reel bearings with automatic takeup. Stand-up steel handle. Patented, positive action clutch. Patented "Quickset" height adjustment from ⅛" to 2¼". Briggs & Stratton 4-cycle, easy starting engines.

Your dealer will gladly demonstrate one of these outstanding COOPER Power Lawn Mowers. Write for his name TODAY.

COOPER MANUFACTURING CO.
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Send me prices, literature and complete information

Name.....

Address.....

City..... Zone..... State.....

$1.00 BARGAINS

EXCEPTIONAL SPRING VALUES

We proudly present the "Cream of the World's Crops"! Each item produced by an outstanding specialist, and offered directly to you at these amazingly low prices. All bulbs and plants guaranteed to be blooming size, to arrive in good condition, and to satisfy in every respect. All stock shipped at proper planting time.

Any 6 Specials . . . $5.00 Postpaid

Any 12 Specials . . $10.00 Postpaid

25 LUCKY SHAMROCK Bulbs

Lucky Four Leaf Clover. Dainty pink flowers bloom profusely all summer. Dwarf. Ideal for rock gardens, pots. $1.00 ☐

10 Summer HYACINTH Bulbs

(Galtonia.) Grow 5 ft. tall. Bear great, loose spikes of waxy white flowers. Very striking and unusual. $1.00 ☐

5 Fancy CALADIUM

The large, highly variegated, almost transparent leaves of these unusual tropical plants will brighten any shady border, porch box, or room. Assorted colors. $1.00 ☐

8 TUBEROUS BEGONIAS

Double-flowering, camellia - type. Aristocrats of the shade - loving plants. Striking green leaves—large double flowers. A "must" for every garden. Assorted colors. $1.00 ☐

12 Abyssinian GLADIOLUS

Dainty, cream-white flowers, with a splash of chocolate in the throat, and a sweet fragrance. Handle same as gladiolus. $1.00 ☐

4 GLOXINIA Tubers

These imported tubers will produce a mass of trumpet-shaped blooms either indoors or in the garden. A wide selection of mixed colors. $1.00 ☐

5 Hardy ORCHID Roots

(Bletilla Hyacinthiana). Hardy Chinese Terrestial Orchid. 12" stems bear dainty, orchid-shaped mauve flowers. Likes semi-shade. Excellent for rock gardens. $1.00 ☐

3 Hardy AMARYLLIS Bulbs

Amaryllis Halli (Lycoris Squamigera). "Magic Lily of Japan." In late Spring foliage disappears, and a spike of lavender flowers springs, like magic, from the ground. Hardy. $1.00 ☐

3 PEONY Roots

Probably the most popular of all perennials. These large roots are produced by an expert. Assorted pink, red, and white. $1.00 ☐

7 REGALE LILIES

America's favorite garden lily. Fragrant, perfectly hardy, and a profuse bloomer. Large white trumpets on tall stems; buds are suffused red before opening. $1.00 ☐

4 RUBRUM LILIES

Exotic pink lilies from Japan. The graceful reflexed petals make them invaluable for use in corsages, and artistic floral arrangements. Hardy. $1.00 ☐

2 BLEEDING HEART Roots

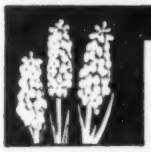
One of the earliest flowering perennials, the delicate pink, heart-shaped flowers are ideal for borders or rock gardens. $1.00 ☐

4 AURATUM LILIES

The "Gold Banded-Lily." A prominent gold band on its petals gives this outstanding favorite its name. Imported from Japan. Hardy. $1.00 ☐

7 TIGER LILIES

Attractive, large orange flowers with reflexed petals. An exceptionally vigorous, hardy strain imported from Holland. $1.00 ☐



15 TUBEROSE Bulbs

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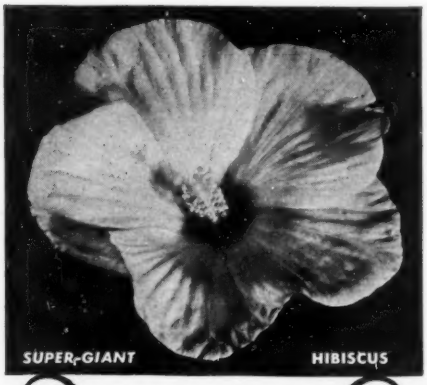

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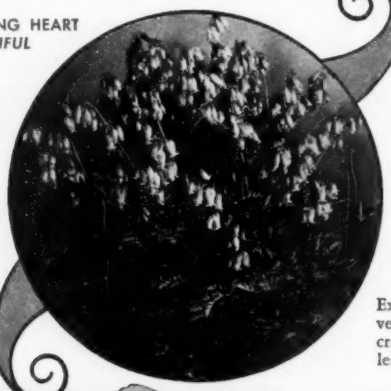
BOUNTIFUL



New
SUPER-GIANT HIBISCUS

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HEUCHERA
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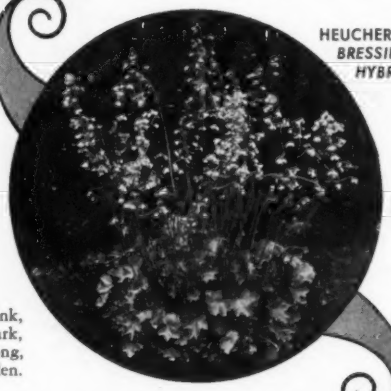

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A CHAT WITH GARDENING FRIENDS . . .

IT TAKES MANY KINDS of skills to make a garden magazine, and among the most interesting are the skills of the graphic artists. This month we'd like to have you meet several of the photographers and three of the artists whose work you see so often in FLOWER GROWER.

Almost anyone would agree that Sam Gottscho is the dean of American photographers. How he got that way involves a revelation: Sam has lived two whole lives, as ordinary men measure their work.

Twenty-five years ago, well towards retirement age for most of us, he ended a career as a successful traveling salesman, and decided to turn towards a hobby—photography. But Sam had to earn money, so he set out to become a commercial photographer, which meant taking up an entirely new profession. He just wanted to do the work he loved to do, and to do it so well that there would be a demand for his pictures.

Sam happened to love beautiful gardens, wildflowers, trees, and all kinds of plant life. He also had a feeling for architecture and design. So what could be more natural than his becoming a photographer of landscapes and of architecture. Most of the beautiful estate gardens in America have been photographed by Sam Gottscho as well as a few thousand smaller gardens of charm and personality. He has written a best-seller book *Wildflowers: How To Know and Enjoy Them*, and is now at work on another one that he plans to call "My Photographic Life."

On pages 44, 45, 46, and 47 you will find fifteen photographs, all credited to Gottscho-Schleisner and illustrating FLOWER GROWER'S article on "Ideas for Naturalizing." Schleisner? Well, Bill Schleisner is now Sam Gottscho's partner, and they use the double credit line. *Bill's* hobby is American history.

Another familiar credit line is "Roche." As most FLOWER GROWER readers know, this stands for Mary Alice and Jack Roche, husband and wife. Jack is a graduate of the famous Clarence White School of Photography. It was his wife, Mary Alice, who set him on the garden path. She is a trained horticulturist, an adept flower arranger, and a fine hand at reporting and writing. The story on the Baker Garden in last month's FLOWER GROWER was done by the Roche team. Probably more Roche pictures appeared in FLOWER GROWER this past year than those of any other photographic team.

One day a very tall young lady appeared in our office, carrying an enormous black portfolio—the kind that makes artists look like artists. It turned out she *was* an artist, too. Her name is Allianora Rosse, and she likes to use very fine pointed pens and brushes and do very painstaking work—but with imagination and verve as well as with clarity of detail.

In her spare time Miss Rosse lives in Rockland County—that same good gardening country where Fred Rockwell and Esther Grayson live. She has a regular botanical library of her own; her mother is a landscape architect; in short, she is what gardening editors love to find, a real discovery. You can see two examples of Allie Rosse's work in this issue: the iris and phlox illustrations on pages 48 and 49, and the drawings that go with Dr. Westcott's rose article.

This must be the artist-and-photographer issue of FLOWER GROWER. For if you like the whimsical kind of artist, you should meet Bill Charmatz. You can, in our regional lawn feature which begins on page 82. Bill, as you can see, is not like the rest of us. Where we feel we may be surrounded by machines, Bill sees only faces, faces, faces. Every machine is just a human in cartoon form to him. And even crabgrass turns out to be a familiar seashore inhabitant!

Our other artist of the month is Linda Murphy, who did the gladiolus and dahlia illustrations accompanying Montague Free's helpful article on pages 52 and 53. *Her* hobby is a piece of the wide open country that she and her husband own and visit weekends. They have plans for a house and a garden, too, but so far their efforts have been devoted to just getting the land cultivatable. Every time Linda does another project for FLOWER GROWER she tries out another idea in gardening. If you visit her place in the Hudson Valley this summer, you'll likely see most of the "Six Settings for Daylilies" which she drew for our March issue.

NEXT MONTH: FLOWER GROWER will turn to "The Healthy Garden" and show you how it's the easiest kind to take care of. Victor Ries, well known as a garden trouble-shooter, will take you on a pleasant but enlightening tour, pointing out all the ways to keep your garden free from trouble.

JOHN R. WHITING

Ideas for Naturalizing

Besides daffodils, there are many other flowering plants, including trees and shrubs, which will help make your gardening easier

Snowdrops bloom as the snow melts.

Wild columbine adds a dash of red.

Grape-hyacinths come along later in spring.

Trillium, for shady places, naturalizes well.

One Spring Day a couple of us went walking in the Nevis Arboretum among a few thousand daffodils which had originally been planted under apple trees on rolling ground—very like the scene below.

"What a wonderfully easy way to garden—naturalizing daffodils," we said "And how many other things can be planted just as casually and allowed to grow as though they were wild—with little care! While most gardeners know that lilies of the valley and daffodils can be naturalized in places where grass won't grow, they never think of trying the many other spring- and summer-flowering plants that are so easy to use this way."

As we walked we made a list. In the photographs on these pages you can get an idea of the wide choice.

Many of us know about scattering crocuses in the lawn and how easy it is to plant a few snowdrops and scillas which we can then forget—except to enjoy their flowers. But all too many gardeners forget that the plants spotted on a spring walk through shady glens can often be grown easily and just as informally in the home garden. Or we forget such ideas gleaned earlier—trilium or wild columbine to be planted at the base of a rock or in the shadow of an old stump—unless we make a list of what we plan to order and plant in

For formal or informal, big or small gardens, there are many easy-to-care-for flowers

All Photographs by Gottscho-Schleisner

the fall. Of course, many wildflowers (or plants we think of as wildflowers) can be planted this spring and, if we want to experiment with seed, there's no time like the present to get started.

In general, most wildflowers do well in shady, humusy soil. The cool, dark corners that are so enhanced by these spots of color usually have the right conditions, if leaves have been rotting and becoming part of the soil for years. Or we can duplicate woods soil by adding quantities of peatmoss.

Here are a few suggestions for naturalizing: Virginia Bluebells (Mertensia virginica) has several kinds of

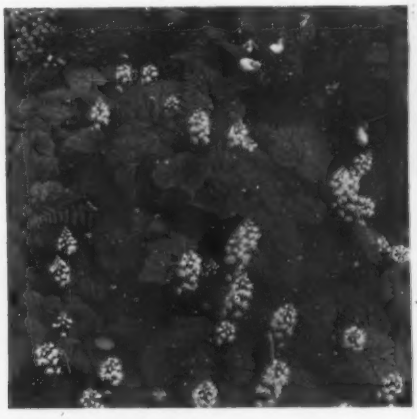
Virginia bluebells are blue or pink.

Birdfoot violets need full sun.

Bishop's cap is best in shade.

Crested dwarf iris grows easily.

Butterfly weed stands summer drought



Foamflower is for later summer.

Spiderwort spreads wildly.

Ferns will thrive in deep shade.

Tiger lilies add flaming color.

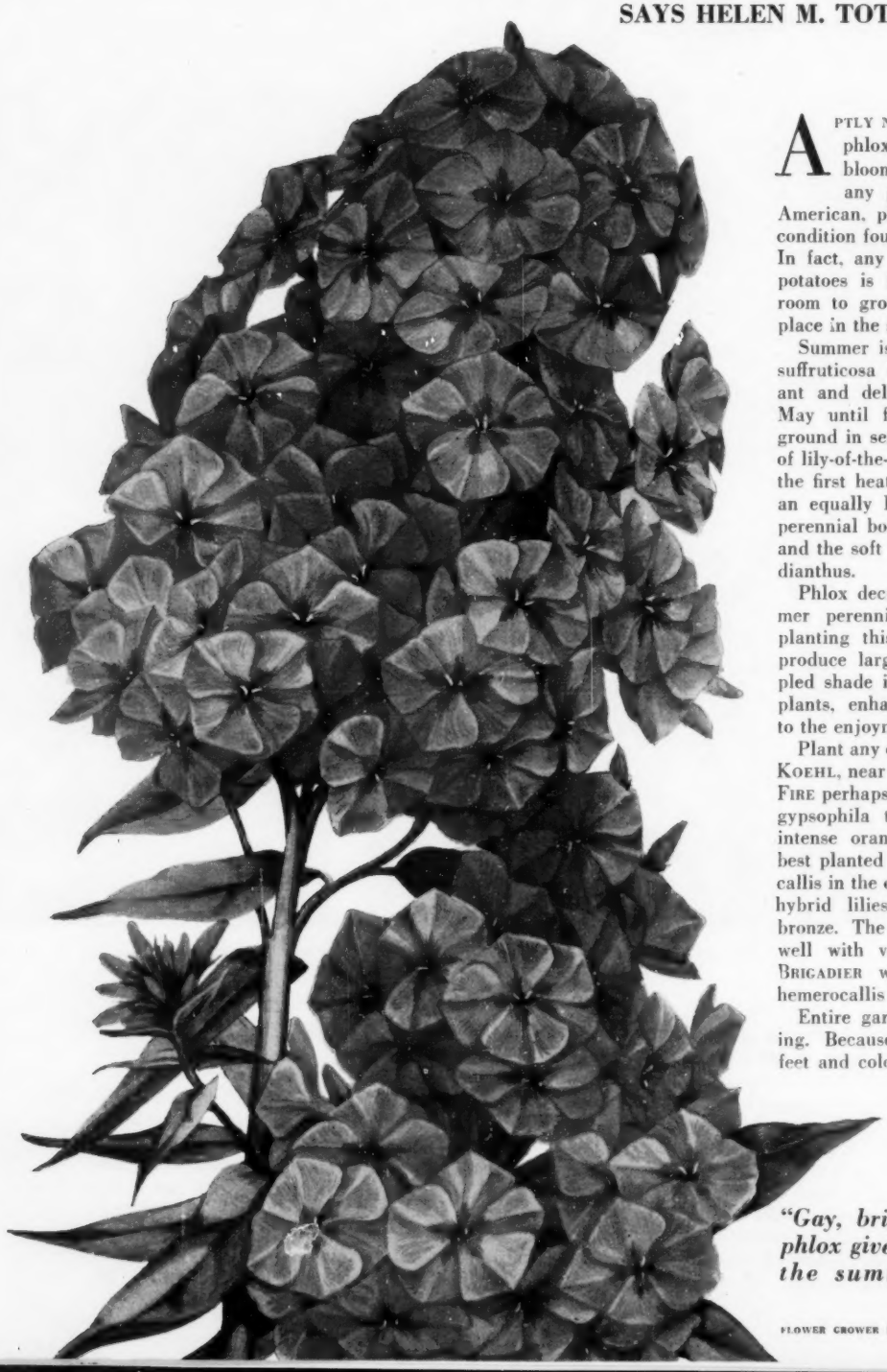
loveliness—blue-green foliage and clusters of nodding blue or pink flowers. A little later in the spring the birdfoot violets (Viola pedata) bloom. (Note: the photographs shown with this article are arranged in approximate sequence of bloom.) Another lovely wildflower that will grow from Quebec to North Carolina and westward to Missouri is bishop's cap (Mitella).

The dwarf crested iris (Iris cristata) is fine for the rock garden, flourishing in semi-shade, unlike most kinds of iris. The butterfly weed (Asclepias tuberosa) will flower for several weeks in the middle of summer. It needs full sun and doesn't mind drought. We see them most often in late July along dry, sunny railroad banks or in the sandy soil found close to salt water. The foamflower (Tiarella cordifolia), in contrast, grows in cool, shady but rich-soil spots. Spiderwort (Tradescantia virginiana) is fine if we don't mind that it will spread its head off; it's hard to stop once started.

Ferns have no flowers but are unsurpassed for cool greenery and the grace of their fronds. They are among the few plants which will thrive in really deep shade. Most of them are easy to grow and establish. One of the handsomest is the Christmas fern (Polystichum acrostichoides) which has the added [See Page 126]

I vote for Phlox . . .

SAYS HELEN M. TOTTY (N. J.)



APTLY NAMED the flame flower, easy-to-grow phlox gives the brightest color and most bloom over the longest period of time of any garden perennial. A native North American, phlox is happy in virtually any soil condition found in the average American garden. In fact, any good garden soil which will grow potatoes is ideal for phlox. It demands only room to grow, plenty of air to breathe and a place in the sun.

Summer is ushered in by lovely white Phlox suffruticosa MISS LINGARD. Very disease-resistant and delightfully fragrant, it blooms from May until frost. Against an evergreen background in semishade and with an underplanting of lily-of-the-valley, it affords a cool retreat from the first heat of summer. Miss Lingard creates an equally lovely picture when planted in the perennial border with brilliant blue delphinium and the soft pink tones of monarda and English dianthus.

Phlox decussata, is the mainstay of the summer perennial garden. Just remember when planting this phlox that only strong sun will produce large perfect trusses, while high dappled shade in late afternoon will then cool the plants, enhancing the fragrance so important to the enjoyment of evening walks in the garden.

Plant any of the rich reds, such as COMMANDER KOEHL, near veronica and platycodons; HARVEST FIRE perhaps with a background of regal lilies or gypsophila to tone down its brilliance. The intense orange varieties such as SPITFIRE are best planted in solid masses with a few hemerocallis in the offing—or perhaps with Mid-Century hybrid lilies in deep orange, dull rust and bronze. The soft pink of variety LILLIAN blends well with veronica Blue Spire; the brilliant BRIGADIER with gaillardia and thalictrum or hemerocallis Hyperion.

Entire gardens of phlox can be most charming. Because plant heights vary from 2 to 3½ feet and colors run the gamut [SEE PAGE 67]

"Gay, bright, easy-to-grow phlox give generous bloom the summer through."

FLOWER GROWER DRAWINGS BY ALLIANORA ROSSE

make mine Iris...

SAYS ROSALIE CLAIRE TEMPEST (UTAH)

WHY do I like bearded iris? The artist has here painted for you the colorful answer to that question. For what better way to approach iris, named for the Goddess of the Rainbow, then in terms of living color?

Truly, iris have captured the color symphony of the universe—the blue of sea and sky, the deep turquoise of clear mountain pools, the shining yellow of sunlight, the pure white of snow, the red, gold and bronze of autumn leaves, the purple merging into black of the night sky.

The jewel tones of the minerals are there too: topaz, amethyst, emerald, ruby. Then there are the pale shimmery tints of abalone shells—and coral. There are rich forest browns.

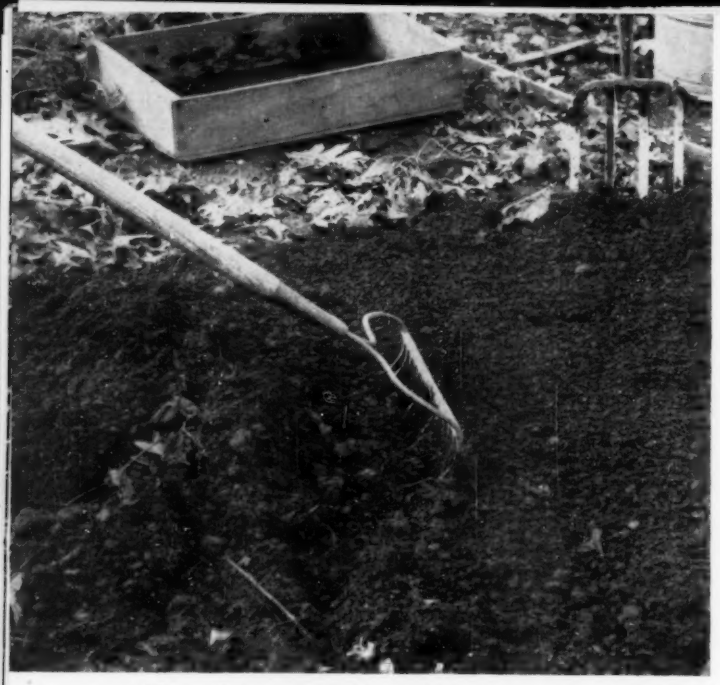
The plicatas, which have a white or cream ground bordered, etched or dotted usually with blue-purple or brown, echo the patterns of butterfly wings and the plumage of tropical birds. While the yellow and brownish variegatas might be likened to earth and sky at twilight, just before all is enveloped in darkness. I see all these things in the bearded iris.

Moreover, iris, in all their variety and brightness, come upon the world when it has but barely emerged from the somber hues of winter.

It's interesting to remember that iris are a universal flower. Their native habitats comprise a great part of the earth's surface—from the shores of the Mediterranean into Europe, through Asia Minor to the Far East, and into the New World, too. The student of history can trace the story of iris back to Egyptian bas-reliefs dated as early as 1500 B.C.—again in medieval Europe as the fleur-de-lis of France.

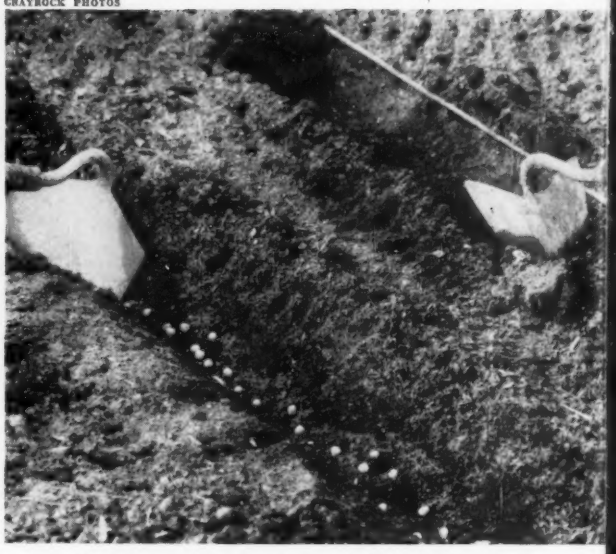
Iris have inspired artists and poets down through the ages, and so we modern gardeners have a rich heritage when we accent our gardens with rainbow-tinted iris. Indeed, past, present and future blend in this flower, for through the skill of hybridizers, ever new and more thrilling colors and blends [SEE PAGE 130]

"Bearded iris provide rainbow of bloom in May and June with little care."



This soil is in the right condition for seed sowing. It has first been forked over, then raked to eliminate hard lumps.

CRAYROCK PHOTOS



Peas being sown in a trench 2 to 4 inches deep. Cover with 1 inch of soil, filling in rest as plants grow taller.

Get the jump on your Vegetable Garden!

by F. F. ROCKWELL

There are many vegetable seeds and plants to start now if you want both earlier harvest and the best in eating pleasure

If soil is at all dry, fill planting hole for cabbages and other seedlings with water before setting them in ground.

When as a teenage youngster I began growing vegetables, I could not understand how the local market gardeners always managed to have their crops mature so much earlier than mine. That, of course, was in the days before truck loads and train loads of perishables—such as lettuce, radishes, green onions, beets and peas—from California and Florida supplied local markets even through the winter months.

A little investigation soon revealed the two main reasons. First, these local vegetable growers began sowing long before I had considered it safe to risk putting seeds in the ground. Secondly, for the earliest crops, they set out growing plants of many kinds that I grew only from seed.

When I began to put this newly acquired information to use, to my surprise I discovered that many vegetables actually prefer the cold wet weather of early spring, and make much better growth then than later on. I had learned the first step to successful vegetable growing.

The table on page 75 lists the plants that prefer or will tolerate cool weather. Any of these may be planted in the open as soon as the soil is in condition to be prepared; that is, as soon as it will readily crumble when dug or plowed. (A simple test to determine this is to squeeze a handful of dug soil into a ball: if, under slight pressure, it crumbles apart readily, it is fit to work; if it tends to remain a wet, soggy mass, wait a bit longer before beginning operations.) Both drainage and the amount of humus the soil contains will have much to do with its "earliness"; for instance, clay soils are late soils unless the humus content is very high.

For earliest harvest, a number of these hardy vegetables may be set out as growing plants. They may be purchased from local garden shops or seedsmen; or the gardener, as he gains experience, may wish to grow his own. For a small garden it is not a difficult matter to start a few dozen seedlings indoors, and later transfer them to a coldframe which will provide protection from late hard frosts.

To grow good seedlings, however, it is absolutely essential to have an abundance of direct sunshine, or, as a substitute for it, controlled electric lighting. While seeds are germinating in a temperature of 60 to 70 degrees, no light is needed. Immediately after they have germinated, full light is essential. A day or two's neglect, once they are above ground, may render them next to worthless.

One great advantage of growing your own plants is that you can get exactly the varieties you want. Another is that the plants will be on hand, ready to set out when conditions are most favorable. Even the beginner will do well to try growing at least a few plants, thus acquiring a new skill which will be very useful in all his gardening work.

When buying plants, do not be influenced by size alone. Short, stocky plants with dark, tough-looking foliage, which have been hardened by a period of exposure to outdoor weather, are much to be preferred to those with soft, lush foliage taken direct from a greenhouse.

Success with vegetables depends to a great extent on what is done *before* they are planted. If the soil is not properly prepared in advance, no amount of aftercare and fertilizing will make up for this neglect. No "miracle" soil treatment or foliar feeding alone is going to produce maximum crops.

Proper soil preparation includes consideration of three distinct factors: mechanical condition, humus content and plant food. I have often referred to this combination as the gardener's milking stool—a very firm foundation if it has all three legs, but more or less useless if any one leg is missing.

The first of these foundations is *mechanical condition*. Soil for vegetables should be dug or plowed at least 8 inches deep, better 10 or 12 inches, and so pulverized as to be of uniform texture with no hard lumps, and free from stones and roots. This is especially important where root crops are to be grown. Once clayey soil has been well worked, chemical soil conditioner will help to keep it in good condition longer.

The second leg—*humus content*—is pro- [See page 74]

A mixture of dried blood and bonemeal is mixed with soil in hole before planting cabbages and other plants.

Pressing on both sides of stem with soles of feet will force root ball of plant into firm contact with the soil.

These easy steps in Spring

THE TWO MOST popular summer-flowering bulbs are dahlias and gladiolus, neither of which is a true bulb. The dahlia is a tuber, while the gladiolus is a corm. For each there is a bewildering array of varieties in a rich range of colors, sizes and forms.

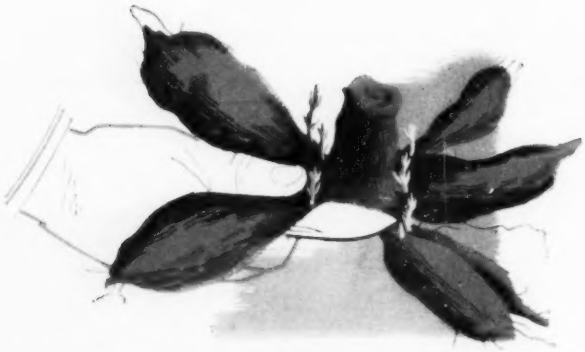
Dahlias are usually planted as tubers (although they can also be started as green plants or seeds). The old rootstock is divided in spring, when growth buds are visible, and it is essential that each division contain at least one bud. Otherwise it will fail to grow. The cutting is done with a sharp, stout-bladed knife; in some cases pruning shears may be helpful. All cut surfaces should be covered with dusting sulfur to prevent the growth of fungi which might cause decay.

In the northern states, outdoor planting is done between May 15 and the end of June, with a view to flower production during cool fall weather.

Prepare the soil bed, if possible, two or three weeks ahead of planting time, bearing in mind that dahlias thrive in deep, fairly rich soil which is thoroughly underdrained but retentive of moisture. To insure an adequate supply of humus, spread a 3-inch layer of rotted manure, compost or peatmoss or a 1- to 2-inch layer of commercial humus, plus an 0-10-10 fertilizer (a 5-10-10 if peatmoss has been used) at the rate of 4 to 5 pounds per 100 square feet. If the soil is very acid (lower than pH 6), use a 5-10-5 fertilizer plus 10 pounds of wood ashes to sweeten it and supply potash.

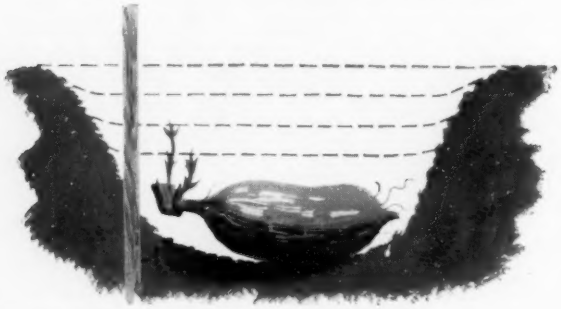
At planting time, spade a hole 6 inches deep in the prepared bed, set stake, place the tuber horizontally in hole with bud or buds upper most, and cover tuber with about 2 inches of soil. Fill in the remainder of the soil gradually as the shoots lengthen. Space tubers 2 to 3 feet apart in rows 3 feet apart.

will give you DAHLIAS of robust beauty

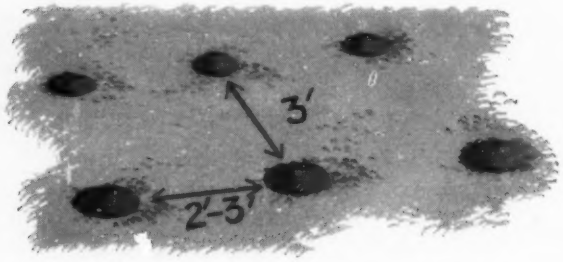


1 Divide your old dahlia clump into individual tubers in spring, after growth buds have started to develop into shoots. Do the cutting with a sharp, stout-bladed knife.

2 Next, dip the cut ends of the tubers into dusting sulfur, making sure the entire exposed surface is treated. This prevents the growth of fungi which might cause decay.



3 Spade a 6-inch-deep hole in previously prepared bed, set stake and lay tuber in hole with shoots up. Cover with some 2 inches of soil, filling in the rest as shoots grow.



4 Space the tubers 2 to 3 feet apart in rows approximately 3 feet apart. Or, if you prefer, you can plant your dahlia tubers in individual stations in the flower border.

planting . . .

by Montague Free

If you are preparing individual stations in a flower border, a good plan is to dig a hole 2 feet wide and 7 inches deep, throw in a shovelful of organic matter and a handful of fertilizer and (using a spading fork) mix this material with the soil in the bottom of the hole. Just before setting the tuber, add 2 inches of unmanured soil.

For three or four weeks after planting, keep the surface soil cultivated. Then, if possible, apply a 2- or 3-inch mulch of some organic matter such as flaky leafmold or partly rotted manure.

When flower buds form, scratch away the mulch and apply a handful of 5-10-5 fertilizer to each plant in a band 6 inches wide and 6 inches from the stem. During dry spells, soak plants thoroughly with water once a week.

Like any plant, dahlias are subject to pests, but not unduly so. Control plant lice (aphids) and leafhoppers by spraying with lindane, methoxychlor or DDT, for these pests not only damage the plants directly but also may transmit the virus disease stunt or mosaic, characterized by mottled and distorted leaves and stunted plants. Dig up infected plants and destroy them, for they cannot be cured.

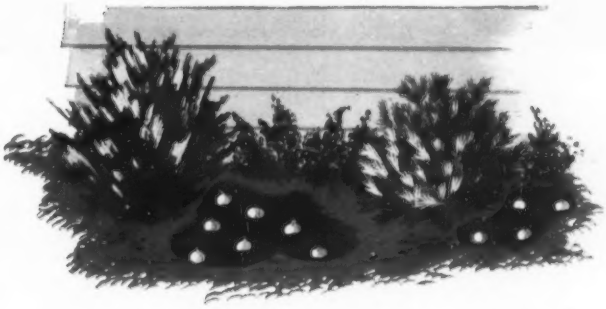
If spider mites are bothersome, use dusting sulfur (which will also take care of mildew) or Aramite, Dimite or Ovotran.

The kinds of dahlias you grow will be determined by personal predilections and the purpose for which they are intended. If your ambition is to carry off Blue Ribbons, you will make a selection from exhibition varieties (see FLOWER GROWER's 1954 Dahlia Honor Roll, January issue). If your interest is in plants for garden display and cutting, emphasis will be placed on miniature, dwarf singles, pompons and bedding dahlias.

The dahlia varieties listed below are [SEE PAGE 68]

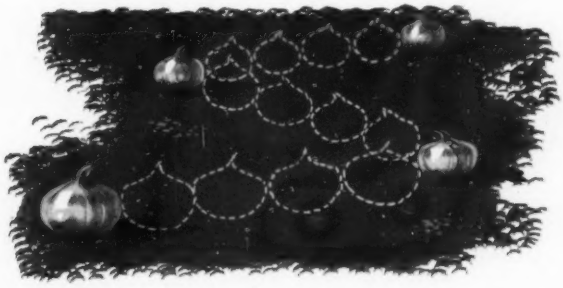
. . . and GLADS with a Flower Show look

1 To lick thrips menace, dust gladiolus corms with 5 per cent DDT in paper bags. Leave them in the bags in 60° temperature for two weeks prior to planting.



2 Instead of setting the corms in rows, try planting them in irregular groups, perhaps as fillers in a new shrub border. Use annuals in front to help hide their bare legs.

DRAWINGS BY LINDA MURPHY



3 When planting gladiolus corms in groups, space them about four times their diameter apart. (This is more generous spacing than that used for row planting.)

4 Plant corms of king-size gladiolus varieties 6 inches deep, regular or medium-sized ones 5 to 5½ inches deep, and miniatures and small varieties some 4 to 5 inches deep.

Forsythia, one of the showiest of spring-flowering shrubs with its wealth of butter yellow blossoms, thrives in light shade.

Shade is no problem

by A. BENJAMIN STURGESS

Why all the sadness and bitter complaining about the shady garden? It seems to be the pessimist's big moment when he can get the ear of a fellow gardener and say: "Of course, you can't expect flowers here. You have a shady yard."

A great many plants will thrive with little or no sun, if they have light. Few spots are too dark to grow anything. Most of the material of which I speak grows in my own garden, so I'm certain it stands various degrees of shade.

Shrubs that grow and bloom freely in part shade include laurel, azalea, rhododendron and the dogwoods in spring; blue hydrangea and sweet pepperbush (clethra) in summer. For fall color, there's beautyberry (callicarpa), the several types of bush and vine euonymus and some of the cotoneasters. They will even grow under fairly heavy tree leafage, except under dense evergreens or maples. Out from under the trees but still where the shadows fall on them, they do beautifully.

Forsythia and spirea bloom very well where a house or tree cuts off the sun, and laburnum trees open fine yellow flowers with one hour's sunshine a day. (My own gets no more.) This also applies to kerria. If you're more interested in foliage than in blossoms, you can grow mahonia, several kinds of privets and barberries, leucothoe and andromeda.

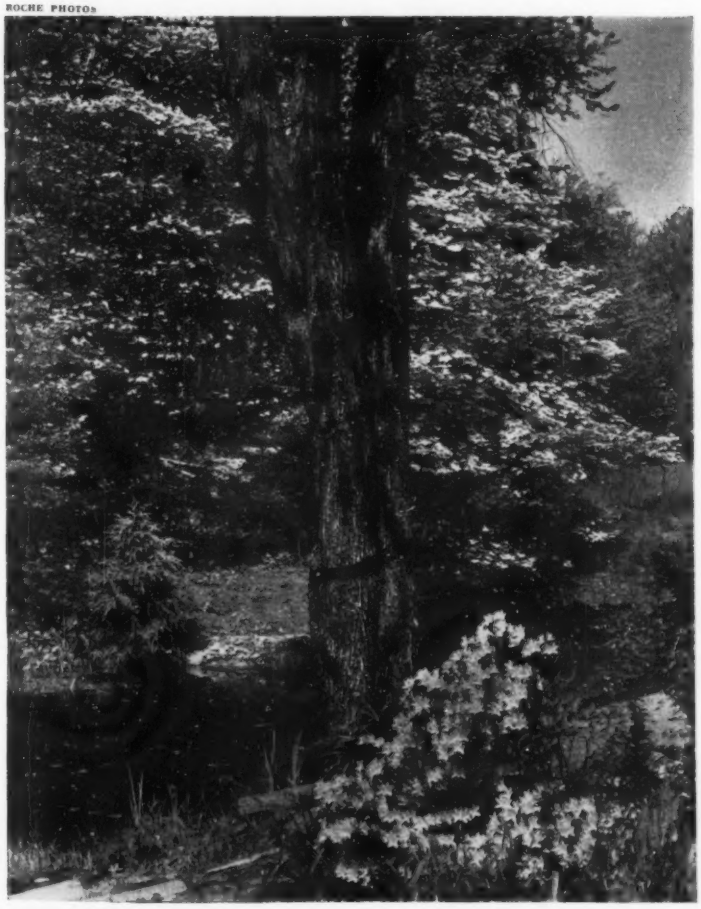
A large beech tree darkens my garden until 10 A. M., when a glance of sun comes in for about an hour. From then until 5 o'clock, the neighbor's house and my own keep the ground in shadow, with part of the tree getting just slanting rays of the sun from the west in late afternoon. Still, I have flowers from April to frost.

Narcissus and many small spring bulbs bloom under the beech and along the drive. These do wonderfully well. Edging the bed is a line of tulips—Darwins, Parrots and some of the species kinds. Virginia bluebells flourish, and the sweet violets do beautifully in the dells and hideaway places. The [SEE PAGE 76]

In June, that long-time favorite columbine brings clear, rain-washed pastels to the shady garden.

Eupatorium, the hardy ageratum with purple-blue flowers similar to annual ageratum, is a robust subject which makes itself at home anywhere.

ROCHE PHOTOS



Bee balm (Monarda didyma), a fine upstanding perennial that will light up a shady corner from late June through August. It lifts its scarlet blooms high on sturdy 3-foot stems.

Few spots are too shady to grow anything, and tree-sifted light or sun provides *ideal* conditions for many plants, including azaleas, rhododendrons, dogwood, bulbs.

The modern zinnia has many virtues

by HOWARD BODGER (Calif.)

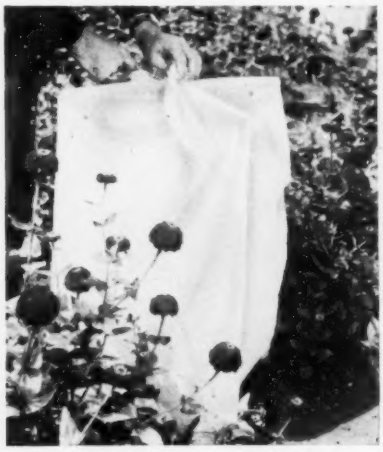
At ease in any garden, thriving on hot weather, a quick source of cut flowers all summer long, the zinnia possesses virtures obvious to beginner and expert alike. Its uses are so varied and, unfortunately, its abuses so monumental that the practiced gardener is apt to dismiss the whole group as "just zinnias" —seen so often they are hardly noticed. Statistically, the zinnia is the world's most popular annual, and one (in contrast to sweet peas and asters) whose popularity is fairly recent.

The meteoric rise of the zinnia, in the twenties, stemmed almost entirely from the introduction of the dahlia-flowered type, which was a true-breeding mutation bearing flowers of enormous size. In that era of big money, big cars, big aspirations, nothing seemed more natural than that America's technological leadership should produce the biggest zinnia, too. When Europe, in the guise of the Royal Horticultural Society, awarded its gold medal to the dahlia-flowered zinnia, the plant breeders started reaching for adequate superlatives to describe the huge flowers. Big zinnias became synonymous with zinnias; in fact, American gardens are still recovering from that period when "biggest" meant "best."

There is a right way to use these giant zinnias for maximum effectiveness, but there are also situations where other, more subtle zinnias will fit the needs of both house and garden more adequately. From a single species, Zinnia elegans, today's plant breeders offer a wonderful assortment of types and [SEE PAGE 128]

HOW TODAY'S HYBRID ZINNIAS ARE BORN . . .

Pumila White zinnia, a possible seed parent, is kept caged to protect it from haphazard pollination. Here it is undergoing a thorough examination.



Selected plant is recaged, and stays under wraps until cross is completed and the seed harvested for planting. Careful records are kept of process.

Since zinnia flowers have both pistil and stamens, the latter are removed before pollen is released. Otherwise the plant would be self-pollinated.

BODGER SEEDS PHOTOS

Pollen of Pumila Crimson is placed on pistil of Pumila White to make a cross between the two. That is the way Peppermint Stick is produced.

The seed thus obtained is sown, and the resulting progeny, technically hybrids, are carefully inspected for characteristics desired by breeders.

From the best of the hybrid plants, seed pods are meticulously harvested. After much research, Peppermint Stick seed is now relatively true to type.

F. F. Rockwell Tells How To

Start Your Roses Right

NO. 4 IN FLOWER GROWER'S 1954 ROSE SERIES

ROSES ARE an all-season crop—the most continuous one in flowerdom. It is perhaps for this reason that many gardeners, when it comes to early spring chores, assume that roses can wait if other jobs are pressing. Consequently the early attention roses should receive often gets put off from week-end to week-end.

If you want to grow really excellent roses, they must have first call in getting such care as they require. The gardener who assumes that the queen of flowers will be content to sit around on the side-lines waiting until it is convenient for him to minister to her needs will find her a discontented and sulky mistress. So let's face it; and if we want first quality blooms in abundance—*and throughout the season*—make roses the number one task.

The Established Rose Garden

With the melting of winter snows and gradually rising temperatures, the rose lover's first concern is to look over his plants and estimate the amount of winter injury there has been. Some of it he can tell at a glance: branches broken by snow and ice, tips of canes brown and brittle from excessive freezing. There may be, too, hidden injury that will not show up until later. The first order of the day, however, is to get the bushes back into condition for every break, bruise or cane which is dying back, means potential future trouble.

Pruning, then, is the first step. In the rose literature of former days this was treated as a sort of sacred rite, to be performed only by a European-trained gardener, with imported "secateurs". (I can still see a picture of him, complete with gardener's apron and bowler hat.)

As a matter of fact, rose pruning is not too complicated and can be successfully done by the beginner. His work will be simplified if he learns at the outset that there are two distinct kinds of pruning to be done. The first is pruning that *must* be done for the health of the plant. The second is pruning that *can* be done, to control growth and the number, size and time of blooms. This type of pruning is of particular concern to the grower who wants the largest and most perfect flowers he can get, and especially if he intends to exhibit.

In our own garden we find it advisable to make the first pruning just as soon as the leaf-buds *begin* to swell, paying no attention to the second type of pruning until we go over the beds a second time, two to four weeks later.

In the first pruning, all broken and winter-injured wood is removed, and also surplus old canes from bushes that are tending to be overcrowded as well as spreading branches that show an inclination to get tangled up with their neighbors. In the second pruning, made *after* foliage growth has started sufficiently to indicate vigorous live wood, we remove any winter-injured shoots formerly overlooked and cut back healthy live wood in accordance with the type of plant we wish to develop in each case.

The principle guiding such pruning is this:—In general, *the more severe the pruning the larger and more perfect the blooms will be, but the number of blooms will be fewer*. This applies particularly to teas and hybrid teas and to the larger flowered floribundas, recently reclassified as grandifloras.

Pruning is designated as light, moderate and heavy. In light (or high) pruning, the canes are merely trimmed back about one-third and weak, twiggy side growths removed. (In northern sections old man winter is likely to do most of this job for you, leaving the dead wood to be removed in the *early* spring pruning.) In moderate pruning, canes are cut back to four to eight buds on each main stem; and in hard pruning to half that number. The amount of pruning for each plant will depend upon general climatic conditions, vigor of growth and upon the variety so it is not possible to make hard and fast rules.

Pruning cuts, especially in hard pruning, are best made above a bud pointing out, so the new branches will tend to make a spreading, open plant; but this cannot always be done. What is of great importance is that each cut be made just above the bud (¼ inch or less), and with a *sharp* knife or shears that will leave a clean, smooth surface that will callus quickly.

Floribundas require little pruning except to remove the oldest canes and maintain fairly open plants. Shrubs and most old-fashioned roses need even less. Climbers—except for the rambler type, which should be pruned after flowering—need little pruning except to remove some of the oldest canes back to or near the base to prevent overcrowding. It *is* important with many, however, to train strong new canes at an angle, or horizontally, in order to get a profusion of flowering side shoots instead of just a few at the top.

Spring Clean-up

Between the *early* spring pruning and the second one, rake over the beds to remove all debris of trimmings, fallen leaves and other litter. This is piled up and burned. If soil or compost has been hilled up around the plants, as it should be in the north, this is then carefully removed so as not to injure the stems, and the hilling material worked into the soil of the beds. We then give the first spring spraying.

This first spray should cover not only the plants but the surface of the soil as well. If leaf growth has not started, one of the dormant oil sprays or liquid lime-sulphur may be used for this; otherwise the all-purpose rose spray. The objective is to have both plants and soil surface (where numerous pests, and especially black spot spores, winter over) as clean as possible.

A few days after this spraying we give the spring feeding—the heaviest of the year. Roses are hungry plants and to produce their best must be kept supplied with food. Our spring application consists of a general-purpose fertilizer (5-10-5) plus two to three pounds of superphosphate per hundred square feet (or about 1 pound to five or six plants). Do not put fertilizer in a ring around the plants. Spread it evenly over entire surface and then work [SEE PAGE 124]

How to Keep your Roses Healthy—Cynthia Westcott Explains Disease and Pest Cures on the Next Pages . . .

Keeping your "ROSES"

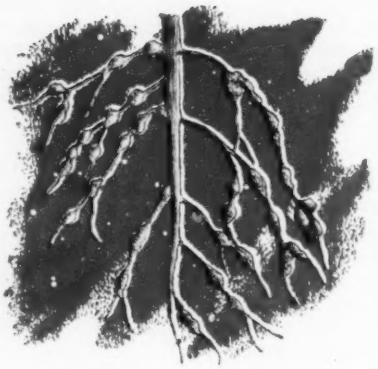
by CYNTHIA WESTCOTT

Control of rose pests starts when you unpack new roses from the nursery. Look the plants over carefully. If any rose shows a swelling at the crown or on the roots, set it aside. Do not even put it in the pail of water with other roses.

CROWN GALL

Crown gall is a bacterial disease, a roundish enlargement with a rough, irregular surface formed near the bud union or on a root. If such a rose is allowed to remain in the bed until it dies, the bacteria released can live a year or two in the soil, ready to infect a healthy rose put in for replacement. It is not always possible to diagnose this disease correctly (callus formation around a wound may resemble it), but it does not pay to take a chance. Destroy a suspicious-looking bush; your nursery will probably replace it.

Root knot, a nematode disease appearing as nodule-like swellings on the fibrous roots, is more common in the South than in the North. Destroy a bush with root enlargements immediately, before the microscopic eelworms can infest your rose bed. Fallow soil can be disinfected with DD mixture or ethylene dibromide (available as Soil-Fume Caps which you can obtain from your dealer). You cannot treat soil near living roses.

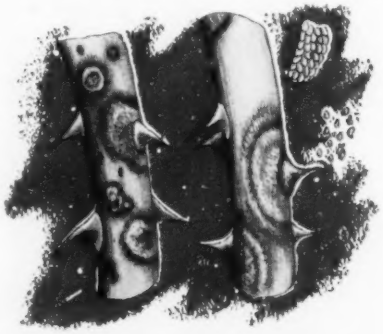


ROOT KNOT

SPRING PRUNING TIME is the best time to get rid of cankers and pith borers—as well as scale, which is discussed later. Be sure to remove earth mounds or other mulch before starting pruning operations.

Brown canker, the most widespread and important cane disease, starts as small, round, purplish spots which soon develop white centers and red-purple margins. Many such spots are usually grouped together, and during winter beneath a moist mulch these coalesce to form large cankers with red and purple borders and little yellow spore tendrils oozing out of tan centers.

Canes girdled by such cankers have their water supply shut off and die back from the top. So far as possible, cut out infected canes. But if you have to leave some in order to have any bush at all, don't worry. Regular weekly spraying for black spot will gradually eliminate brown canker.



BROWN CANKER

Stem canker starts around insect wounds, frost cracks, thorn scratches and stubs left in pruning. The dark spores make a sooty mass just under the epidermis. To help control this disease, when pruning always cut *close* to a bud, never leaving more than ¼ inch of stub. During the growing season, cut just above a leaf.

Pith borers may be bees, sawflies or wasps which enter through cut surfaces to lay eggs in pith of canes. To control, avoid fall pruning, and in spring cut down to sound wood. If stems die back suddenly in summer, cut them out below the borers. Some people paint all cut surfaces. Although I have never found this necessary in my own practice, it may help in the South, where canes grow larger.

STEM CANKER

SUMMER SPRAYING OR DUSTING starts when the plants come into full foliage and leaves are expanded. It continues *weekly* until hard frost. The right all-purpose spray controls most insects and diseases in one operation. If you rely on dusting, you may need an occasional supplementary spray.

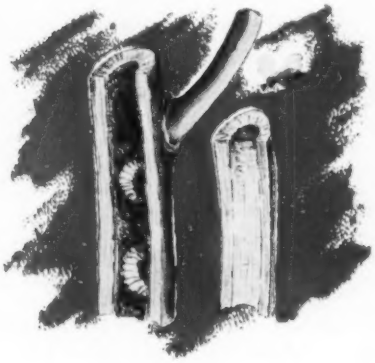
Aphids, soft-bodied sucking plant lice, appear with the first leaves. There are several species, the pink and green potato aphid favoring potatoes in summer, returning to roses when the po-

healthy...

Don't be afraid of these plant pests. This article will tell you how to keep them away.

FLOWER GROWER SKETCHES BY ALLIANORA ROSSE, ADAPTED FROM "ANYONE CAN GROW ROSES" BY CYNTHIA WESTCOTT, PUBLISHED BY VAN NOSTRAND

tatoes are harvested. Aphids cluster thick on flower buds as well as on succulent new shoots. As a result, bloom is sometimes misshapen and petals streaked. Any good contact spray will kill the aphids. Nicotine sulfate and soap, pyrethrum and rotenone are still effective, while malathion and lindane are more recent recommendations. DDT may increase aphid populations by killing lady beetles and parasitic wasps, which normally keep aphids in check. Some dusts do a fair job on

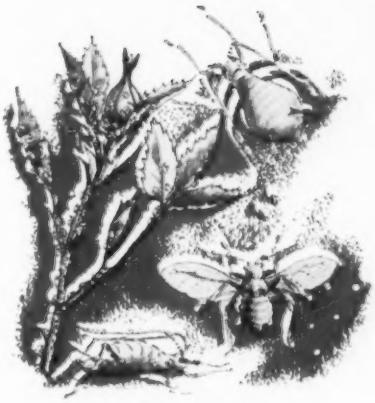


PITH BORERS

aphids, but the wetting and washing action of a spray makes it more efficient.

Leafhoppers also appear in early spring. They are small wedge-shaped insects, whitish to light green. They suck from the underside of leaves, producing a pattern of white dots on the upper surface. Although rotenone in a combination spray is usually sufficient for the spring brood, DDT is much more effective and may be required for the devastating late summer and fall broods. These often move over to roses from apples, sucking the rose foliage entirely white.

Rose slugs, sawfly larvae that look like very small slugs, are another early season menace. Greenish and either slimy or velvety, they feed by skeletonizing the leaves, eating out everything but the epidermis. One species, the bristly rose slug, eats holes clear through the leaves in spring and comes around again in late summer. Climb-



APHIDS

ing roses, as well as hybrid teas, are attacked. Any stomach poison, rotenone, lead arsenate, DDT or methoxychlor, gives control if applied early enough.

Rose scale may thickly encrust the canes. Females are round and dirty white, the males white and very thin. Immediately after spring pruning, spray with liquid lime sulfur, 1 part to 9 parts water if the bushes are still near dormant (at this strength the spray will burn foliage). Since lime sulfur will stain painted objects, a less effective oil spray may have to be substituted in the case of climbing roses on walls and trellises. Or you can wait until you see the little yellow crawlers in summer and spray with malathion. The dormant lime sulfur spray is also an aid in disease control, killing spores spread about by pruning operations and perhaps burning out black spot cane lesions.

Red spiders, both the two-spotted mite and other species, are more prevalent where DDT has been used either for treating roses or for mosquito control. The mites, just barely visible to the naked eye, may appear on leaf undersides in late April (in New Jersey) and increase in abundance through July, decreasing in August. They do most damage to bushes located near walls, houses, trees or hedges, where free air circulation is lacking.

Leaves of infested plants have a mealy appearance on the underside, with numerous black specks. The upper leaf surface is yellow, grayish or reddish—or it may have brown burns across it. There is much defoliation, especially on some polyantha varieties.

Excellent new miticides are now available. Aramite 15W, a wettable powder used at the rate of 1 tablespoon to a gallon of water or gallon of spray mixture, is both effective and nontoxic to man. Ovotran, which works on mite eggs, is equally safe for the operator and is incorporated in several combination dusts and sprays. Malathion is the newest phosphate spray. It is much safer than parathion, but do follow directions.

Powdery mildew is another problem enhanced by poor air circulation. In

LEAFHOPPERS

New Jersey it often shows up in April, and by May and June has covered the foliage, buds, sometimes even canes, of such ramblers as Dorothy Perkins; for ramblers are particularly susceptible. The dense white coating consists of fungus threads and powdery chains of spores.

Some floribundas and polyanthas are subject to mildew throughout the season, but hybrid teas are most susceptible in late summer and fall.

The effects of powdery mildew: buds and blossoms are deformed or fail to develop; leaves are curled and often blistered, and purplish or black under the white coating.

Mildew spores are spread by wind,

CUT YOUR GRASS

the EASY WAY

with

SNAPPIN'® TURTLE

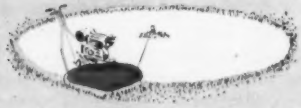
THE MOST COMPLETELY AUTOMATIC ROTARY MOWER

NO PUSH
NO PULL

Self-propelled—forward and reverse. Climbs steep banks. Don't push . . . just guide.

DON'T WALK
. . . RIDE!

Snappin' Turtles are powered to pull you on a sulky even while cutting tough weeds uphill.



CUTS BY ITSELF

Snappin' Turtle will cut big areas staked out as you relax.

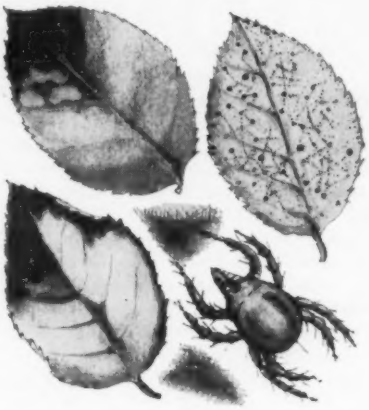
There are six models, from 19" to 25". Powered with 4 cycle engines from 2 to 6 horsepower. Roller drive; no wheels. Leaf mulchers available for all models. Your dealer will be glad to demonstrate on your lawn . . . or write for free folder.

Power Implement Division
SOUTHERN SAW WORKS, INC.
ATLANTA, S.W., GEORGIA

Keep Roses Healthy

[FROM PAGE 59] not rain, and the disease is prevalent in semiarid regions. The spores germinate in high humidity but not when they are actually in water. Syringing plants discourages mildew.

Fermate and the other new carbamate fungicides do not control powdery mildew. Wettable sulfur is effective



RED SPIDER

either as a spray or dust as long as it contains more than 60 per cent sulfur. Most combination dusts on the market do not have enough sulfur to take care of mildew. Because sulfur burns in hot weather, do not use it when the temperature is above 85°. Copper is safe in the hottest weather, but strong coppers, such as bordeaux mixture, cause defoliation in cool, cloudy weather. For most rose varieties, I have found ammoniacal copper (as in Tri-ogen) safe—and efficient—at temperatures above 55°.

Mildex, also known as Karathane and Iscothan, is a synthetic compound used by some greenhouse operators as a specific for powdery mildew. It is available for home gardeners this year in a combination dust (End-O-Pest Rose Dust). However, it may be injurious in hot, muggy weather.

Rose rust, a rarity along the eastern seaboard, is prevalent along the Pacific Coast. On leaf undersides, numerous orange spore cushions the size of pinheads give place in fall to black pustules of winter spores. The upper leaf surface has yellowish areas. Control with weekly applications of a carbamate spray or dust: Fermate, Parzate or Dithan Z-78.

Black spot is the most serious rose problem over most of the country. The fungus winters in old leaves on the ground or in cane lesions, and rain splashes the spores from the ground to lowest leaves and from one leaf to another. Infection occurs if the foli-

age remains wet six hours or more. The black spot, with distinctive fringed margin, is formed by dark fungus threads crisscrossing under the cuticle. Leaves of susceptible varieties often turn yellow and drop; leaves of tolerant varieties usually remain on the bush.

To control black spot, apply a mulch of buckwheat hulls, ground corncobs or other material in spring, after the first feeding. This covering forms a mechanical barrier between spores in old leaves on the ground and the new foliage on the plant. *Regular* weekly spraying or dusting does the rest. Fermate, sulfur, copper and the new captan all control the disease if applications are thorough and properly timed. You should spray *before* a rain instead of after, but if you spray weekly, there will always be enough protection for the next downpour.

Avoid overhead watering or else do it early in the day, so that leaves will dry before night. Do not work with roses when they are wet. Also, be sure to pick off the first few spotted leaves before spores are splashed to other bushes.

In addition to black spot, there are various other leaf spots. One is anthracnose, whose numerous small circular

BLACK SPOT

spots have light centers and reddish margins. Control for all these is the same as for black spot.

Thrips menace the first June bloom of roses but are less troublesome later in the season. On infested plants, buds keep their petals tightly stuck together or open part way. Petals have brown edges, and scurrying around inside are the needle-thin thrips, which are cream, yellow or black. It is hard to reach them with a spray, but lindane in an aerosol bomb (Antrol Rose Spray Flower Bomb) is quite successful.

Rose chafers lead the parade of beetles, feeding on petals of peonies

GRO-QUICK

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and the first roses. These insects are tan and long-legged, most prevalent north of the Japanese beetle area. Use DDT to control.

Japanese beetles are definitely a problem in eastern states. However, they do not appear until late June, after the main burst of bloom, and they disappear in September just as roses are coming into their fine autumn display. They are oval, ½ inch long,

LEAF-CUTTER BEES

colored a metallic copper and green, with tufts of white hairs under the wing covers. Sometimes grouped in dozens on a single rose, they chew foliage to lace and demolish flowers in short order. They prefer light-colored flowers and sunny weather.

Regular weekly treatment of foliage with lead arsenate, DDT, methoxychlor or chlordane will keep it from being chewed up by beetles. To keep

JAPANESE BEETLES

the beetles off flowers, you must apply a chemical every day, and that is too much for the good of the rose bush. Cut your best buds as they show color and let them open in the house. Traps attract more beetles than they collect, but there is no argument against hand-picking except the considerable amount of time required.

Other beetles predominate in other regions. The large dark May beetle

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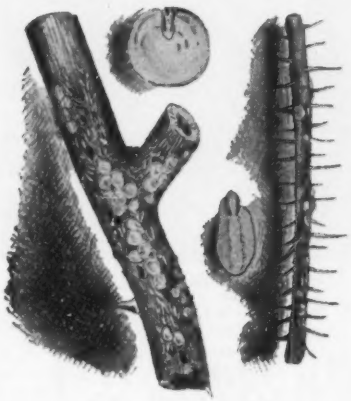
(June bug) feeds on flowers at night, and so does the small grayish southern weevil known as Fuller rose beetle. The rose curculio, red with a black curved snout, drills holes in buds but can be deterred with DDT. Diabrotics



ROSE SCALE

or spotted cucumber beetle, yellow-green with black spots, is prevalent in the South and West and is found feeding on eastern rose petals in late summer. Lindane is helpful.

Rose midge is an insidious, heart-breaking affair. All of a sudden, usually in August, you realize you have lots of foliage and no flowers, not even any buds coming on for late bloom. On close examination you find small, black, dried buds, and sometimes you can find the tiny yellow maggots before they drop to the ground to pupate and produce flies, which will lay eggs for the next generation.

You can get almost complete control—and bring the bushes back into

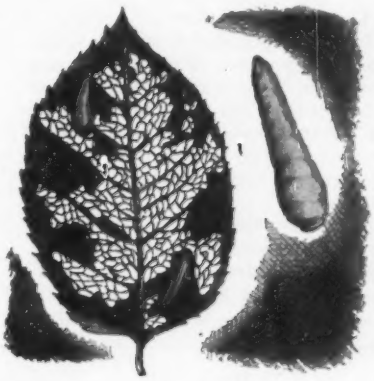
ROSE MIDGE

flowering the same season—by spraying bushes and ground thoroughly with DDT, 2 tablespoons of 50 per cent wettable powder to a gallon of water. Repeat two times more at 7- to 10-day intervals.

Leaf-cutter bees are a late-summer curiosity. They may disfigure the foliage rather severely, but there is not much you can do about it. The bees do not eat the leaves but merely cut ovals and circles from the margin. They use this material to line their nests in the pith of woody shrubs.

COMBINATION SPRAYS AND DUSTS for the control of most rose pests and diseases are sold under many trade names. You have to read the label to find the exact ingredients and their proportions. One mixture may contain Fermate, sulfur, DDT, lindane and Ovotran (ACP Rose and Floral Dust). Another combines Fermate and sulfur with methoxychlor and rotenone (Du Pont Floral Dust). A very new mixture is captan, Mildex, malathion and DDT (End-O-Pest Rose Dust). Copper, Fermate, lead arsenate, rotenone, pyrethrum and Ovotran are in a spray (Tri-ogen) which has helped many amateur rosarians win blue ribbons.

ABNORMAL MANIFESTATIONS, not due to insects, bacteria or fungi, are not uncommon in roses. A virus



SLUGS

disease appears as a yellow, zigzag pattern on leaves of rose plants originating on the West Coast. However, you need not fear this yellow mosaic in your garden, because it is spread only in propagation.

Small, fernlike leaves on roses usually indicate that 2,4-D has been used in the vicinity. Small burned spots peppered over foliage result from DDT which has been applied by mist blowers for mosquito control. Red spots on leaves may mean that copper was applied in cold, cloudy weather, and burned margins are an aftermath of sulfur used during too hot weather.

Roses took the 1953 record high temperatures better than most plants, but some buds were literally blasted by the heat. Roses also withstood the drought amazingly well, coming back to good autumn bloom—that is, unless trees and shrubs had stolen all available water. Remember to plant roses far away from tree roots.

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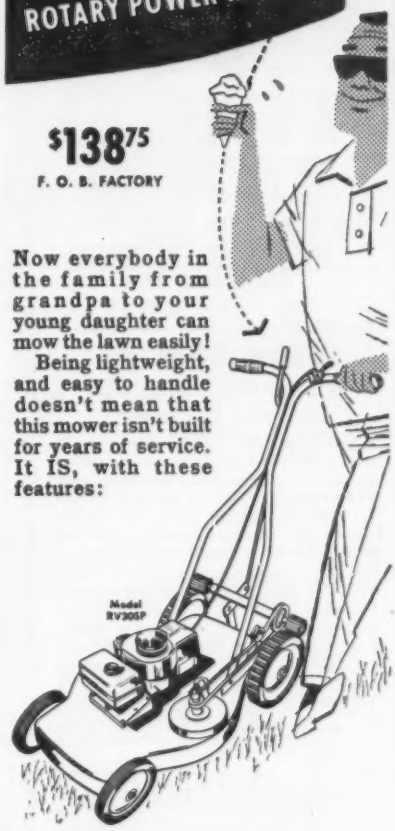

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GRETCHEN HARSHBARGER

Revolute

PHILIP C. CORLISS

Garnet Robe

America's Favorite Daylilies—100 Beauties in Experts' Lists

ONE HUNDRED VARIETIES of daylilies—with 44 of them singled out for special mention—have been chosen by the members of the Hemerocallis Society in their annual poll of the most popular varieties across the country. Members voted for their favorite garden plantings and the society's judges selected the award winners.

These latter were headed by Revolute, a cool green-yellow self, open with ruffled segments, developed by H. P. Sass. This won the 1953 Stout Medal by the necessary majority vote of the judges. The Award of Merit list of ten varieties receiving the highest number of judges' votes, is headed this year by Garnet Robe (Milliken) a wide-petaled, velvety bloom garnet red with green throat.

Eighteen newer varieties (listed at the end of this article) made the list for the first time this year, replacing older varieties ebbing in popularity. One of these, Pink Damask, a daylily originated in New York State, stood twenty-third from the top in this year's poll.

The others in the top quarter are old favorites in many gardens and most of

Top Varieties in Color Classes

Yellow—

Revolute
High Noon
Queen of Gonzales
Dauntless
Mrs. B. F. Bonner
Hesperus
Colonel Joe
Mission Bells
Lady Bountiful
Ming

Red—

Garnet Robe
Mrs. Hugh Johnson
Royal Ruby
Mabel Fuller
Black Prince
Crimson Glory
Queen Esther
Kanapaha
Display
Lochinvar

Pink—

Pink Prelude
Pink Damask
Pink Bowknot
Pink Charm
Picture
Maid Marian
Pink Dream
Evelyn Claar
Sweet Briar
Rosalind

Bicolor—

Caballero
Gay Troubadour
Jean
Su-Lin
Athlone
Bold Courtier
Baggette
Party Gown
Howdy
Mamie Lake

Polychrome—

Painted Lady
Prima Donna
Georgia
Brocade
Windsor Tan
Linda
Cibola
Ruffles Pinafore
Copper Colonel
Duchess of Windsor

Orange—

Orange Beauty
Naranja
Valiant
Glowing Gold
Cibola
Golden Hours
Joanna Hutchins
Golden Grain

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them are reasonably priced. Entering the bottom of the list are newcomers not yet well enough known to the voters to win higher places but exceptionally good varieties—collector's items much in demand as breeding stock for hybridizers.

The late H. P. Sass who in 1944 developed the variety awarded the Stout Medal this year was a resident of Bennington, Neb. He was well-known as a hybridizer of many top-ranking hemerocallis and irises. Two others, Midwest Majesty and Queen Esther, developed by

Awards and Honors

Stout Medal

Name	Originator
Revolute	H. P. Sass

Award of Merit

Garnet Robe	Milliken
Midwest Majesty	H. P. Sass
Valiant	P. Cook
Queen Esther	H. P. Sass
Naranja	Wheeler
Scarlet Sunset	Wheeler
Rose Gem	Stout
Flanders	Lester
Flamboyant	Douglas
Baggette	Russell

Honorable Mention

Cibola	Hill
Brocade	B. Taylor
Colonel Joe	Lester
Salmon Sheen	B. Taylor
Show Girl	Wheeler
Raven	Wheeler
Display	Hall
Friar Tuck	Lester
Ming	Stout
Neyron Rose	Kraus
Brul'ee	B. Taylor
Challenger	Stout
Pink Dream	Childs
Meadow Gold	Hall
Fascination	Hall
Griselle	Saxton
Prairie Boy	H. P. Sass
Spring Fantasy	Lester
Taffy	Saxton
Canyon Purple	Nesmith
Constance	Hill
Glory	Bechtold
Myonne	Westal
Magnolia	Christenson
Primula	Kraus
Soledad	Kraus

Junior Citations

Alan	Claar
Premier	Hall
Quincy	B. Taylor
Swansdown	Hall
Sweet Mystery	Lester
Sweet Refrain	Hall
Tootie	Claar

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City ..... *Zone* ..... *State* .....

him received awards of merit this year and a third, Prairie Boy, is in the honorable mention list.

New Varieties Listed:

Here are the 18 newer varieties of hemerocallis which are included for the first time in the 1954 poll of most-popular daylilies. They are listed in order of rank, together with their approximate blooming season, their color and the state of origin.

Number 23, Pink Damask, midseason, pink, New York; 37, Picture, intermediate, pink, Georgia; 44, Pink Dream, midseason, pink, New York; 46, Howdy, midseason, lemon and wine bicolor, Nebraska; 56, Spring Fantasy, very early, light yellow and lilac bicolor, Georgia; 58, Swan, early midseason, yellow, Florida; 78, Joanna Hutchins, late midseason, Illinois; 79, Golden Orchid, midseason, orange, New Hampshire; Marie Wood, midseason, pink, Georgia; 85, Golden Triangle, midseason, yellow, Maryland; 86, Jewel Russell, midseason, yellow, Texas; 88, Laurel, late midseason, pink, Georgia; 90, Myonne, early, bronze red and yellow bicolor, Arkansas; 91, Salmon Sheen, midseason, salmon pink, Florida; 92, Nashville, midseason, yellow with orange band, Illinois; 95, Gold Cargo, midseason, yellow, Texas; 96, Ruth Lehman, midseason, pink, Illinois; 100, Brul'ee, early, pink, Florida.

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Phlox

[FROM PAGE 48] from white and pastels to richest reds, pictures of rare beauty can be achieved with little effort.

Once properly planted, fed and mulched, phlox will provide bright bloom throughout the midsummer heat.

Phlox may be successfully planted in spring or fall. The soil should be well spaded a foot deep, with a top dressing of well rotted manure, leafmold or peatmoss worked in to aerate the soil. Bonemeal, at the rate of ½ pound per square yard, may be incorporated into the top 6 inches of soil. And if leafmold is used instead of manure, then any good 5-10-5 fertilizer should be added.

For best effect, group three or more plants of one variety together, remembering always to allow plenty of space between—12 to 15 inches. After planting, mulch well with peatmoss or buckwheat hulls. Since phlox are heavy feeders, it is advisable to lift the mulch in late June and feed with 5-10-5, about one tablespoon per plant, replacing the mulch afterwards.

Since phlox like moisture, during dry spells their roots should be well soaked two or three times a week—although if this is not practical, a good mulch will carry them through.

Phlox should be lifted and divided every two or three years, for they deteriorate rapidly when the growth becomes too woody and heavy. Use a sharp knife to cut off divisions (each of which should have four to six eyes) from the outer rim. Discard the woody center.

Always cut off the flower cluster after it has bloomed. This serves a three-fold purpose. It encourages auxiliary growth, extends the blooming period and spares the plant the work of seed production. Moreover, if these seeds fall and germinate, the larger plants will be crowded out by a mass of young seedlings which are weak and never true to variety.

In fall, cut off the old flower stalks and burn them to prevent spread of disease.

Tried and true varieties which I heartily recommend are as follows: MARY LOUISE, which bears huge white flowers in August and September; WHITE ADMIRAL, large white flowerheads, July to October; DAILY SKETCH, large florets of salmon pink with crimson eye, August, September; MIES COPYN, pink with carmine eye, August, September; SIR JOHN FALSTAFF, massive trusses of salmon pink, June to September; PROGRESS, light blue, August, September; PURPLE HEART, deep blue-purple, midsummer; LILLIAN, cameo pink with blue eye, July, August; SALMON GLOW, profuse bloom of flame pink shaded salmon, July to frost; LEO SCHLAGETER, scarlet, June, July; BRIGADIER, large clear red trusses, midsummer; COMMANDER KOEHL, blood red flowers, July, August.◈

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Dahlias and Glads

[FROM PAGE 53] older kinds which have stood the test of time and are still popular.

ALICE MAY, white informal decorative; WHITE KING, white formal decorative; JANE COWL, bronze and gold informal decorative; JERSEY'S BEAUTY, clear pink formal decorative; MRS. I. DE VER WARNER, lilac rose formal decorative; SON OF SATAN, bright scarlet incurved cactus.

BISHOP OF LLANDAFF, scarlet miniature formal decorative, bronze foliage; BONNIE BLUE, royal purple miniature formal decorative.

GOLDEN QUEEN, gold pompon; LITTLE HERMAN, red and white pompon; LITTLE SNOW WHITE, white pompon.

Beginners who want to start inexpensively with gladiolus often order "white" or "red" gladiolus, as advertised, without knowing the variety names. Of course, as most home gardeners know, buying by variety names from top quality growers is the best way of getting really good corms, the newer colors and better resistance to troubles.

There is no great advantage to buying jumbo-size gladiolus corms. Personally I prefer high-centered corms 1¼ to 1½ inches in diameter rather than those the size and shape of depressed hamburger buns.

The corms may be planted outdoors from mid-April (in vicinity of New York) until July. The early-flowering varieties take 60 to 75 days from planting to blooming, the late ones 80 to 100 days. The time required for the various kinds is given in the catalogs of some specialists. By manipulating your time of planting and your gladiolus types (early, midseason and late bloomers), you can have gladiolus in bloom from July until frost.

Gladiolus will thrive in any soil that will grow good vegetables. For heavy, clay soils, add as much as you can of bulky organic matter such as flaky leafmold, compost and peatmoss. Very sandy soils also should be dressed with organic matter.

Most people seem to have but one idea when it comes to planting gladiolus—set 'em in rows as if they were planting potatoes. This is undoubtedly a good practice culturally and perfectly all right when the aim is to produce flowers for cutting or exhibition. But it minimizes their value for garden decoration, which is considerable if they are properly used. Gladiolus make excellent fillers in the perennial border, carrying on after the early bloomers have faded. They are admirable when planted with a background of shrubs, or as fillers in a new shrub planting, which alone is likely to be rather skimpy-looking. In these plantings use them in groups of

6 to 18 corms spaced about 6 inches apart. Low-growing annuals—or bedding plants of begonia and pelargonium—in the foreground and in among them enhance their appearance and help to hide their bare legs.

Several factors influence the spacing and depth of planting of gladiolus: the kind of gladiolus, soil type, method of planting and purpose. When planted in groups, miniatures and small-type varieties should be set about 4 inches apart and 4 or 5 inches deep; in rows, 3 inches apart, the rows 18 inches apart. Regular and king-size varieties planted in groups, 6 inches apart, 6 inches deep in sandy soil, 4 inches in clay; in rows, 3 or 4 inches apart (6 inches if for exhibition), the rows 20 to 30 inches apart.

As for the actual planting and fertilizing operations, if you're planting in rows, plow out your furrow with a hand plow, spread 5-10-5 fertilizer at the rate of 2 pounds per 100 feet, cover it with 2 inches of soil, set the corms and fill in the remaining soil. For planting in groups in the flower border, follow the method suggested for dahlias.

When planting is completed, smooth the surface soil by raking it lightly. In about two weeks, before the shoots reach the surface, cultivate shallowly with a scuffle hoe and repeat when the shoots are above ground. When the plants are about 8 inches tall, it's advisable to apply a mulch of organic material, the same type mulch as for dahlias—unless, of course, you are planning for clean cultivation.

When the flower spikes are visible, if you are not satisfied with the vigor of the plants, put on a side dressing of 5-10-5 at the rate of 2 pounds to 100 feet of row. You can either make a furrow 3 inches deep, 4 or 5 inches from the row, or else scratch the mulch away, scatter fertilizer and replace the soil or mulch.

The insects most likely to be bothersome to gladiolus are thrips. Corms purchased by mail or from a good garden store are likely to have been treated, but if you are using your own stock or if the corms were not treated, they should be dusted in paper bags with 5 per cent DDT. Leave them in the bags in a temperature of 60° for two weeks prior to planting. Then when the shoots reach a height of 8 inches, start dusting them at weekly intervals with 5 per cent DDT.

Following are gladiolus varieties which have proved their worth:

WHITE GODDESS, WHITE LACE, and MOTHER FISCHER, white; EVANGELINE, light pink; FRIENDSHIP, pure pink; SPIC AND SPAN, salmon pink; BURMA, rose-red; RED WING, glossy light scarlet; KING DAVID, purple; ELIZABETH THE QUEEN, lavender; SUNDANCE, yellow; OCTOBER SUNSHINE, orange-buff; STORMY WEATHER, smoke with cream throat.◈

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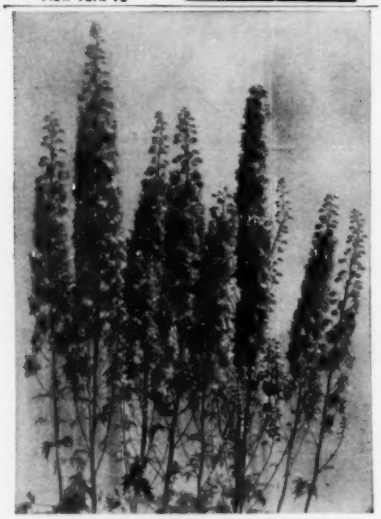

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MUMS across the nation

by NATIONAL CHRYSANTHEMUM SOCIETY MEMBERS

For several years, the National Chrysanthemum Society of America's annual list of the most popular chrysanthemum varieties was assembled from a poll of our members. In 1953, we departed from this plan by asking seven members, representing various regions of our country, each to send a list of 25 varieties well adapted to the particular climate of his locality. These lists appear on the opposite page. The membership poll was discontinued because it was too heavily weighted in favor of varieties grown where membership was most dense.

Invitations were extended to members who know chrysanthemums and how to grow them. The seven selected are as follows:

E. E. Puls, Dean of the Division of Applied Science, Southeastern Louisiana College, Hammond, represents the Deep South. He has given us his selection based on experience in conducting a test garden, in visiting amateur shows, and in advising the commercial growers in his state.

H. N. Metcalk, Associate Horticulturist at Montana State College, Bozeman, represents the North. He has worked out a list in cooperation with A. L. Richardson who has charge of a branch experiment station at Corvallis in the extreme southwestern part of the state. Climate is correspondingly different but, where possible, varieties were selected that were successful in both locations.

Daniel Dowd, instructor in the School of Horticulture at the Long Island Agricultural and Technical Institute, Farmingdale, New York, had the help of some 40 horticultural students in choosing the

Chrysanthemum Selections for Every Climate

EAST

Daniel Dowd
Farmingdale, L.I., N.Y.

Variety	Color	Type
Alert	purple	9*
Amelia†	pink	9
Apache	bronze	9
Avalanche	white	9
Betty	pink	9
Carnival	bronze	9
Cindy	red	1
Courtier	lavender	9
Edith	purple	5
Ethel Waters	yellow	*
Fred Rockwell	orange	8
Golden Carpet†	yellow	5
Goldfinch	yellow	9
Honeycomb	yellow	5
Misty Maid	white	9
Moonbeams	yellow	10
Olive Longland	apricot	9
Pomponette	yellow	5
Powder Puff	white	9
Red Velvet	red	9
Remembrance	red	9
Sincerity	white	9
Success	red	9
Tanager	red	9

MIDWEST

James R. Fleming
Lincoln, Neb.

Variety	Color	Type
Alert	purple	9*
Andrew	rose	9
Betty	pink	9
Carmine Queen	pink	5
Cecil Beed	pink	9
Charles Nye	yellow	8
Chiquita	yellow	5
Dr. Longley	orchid	9
Fuchsia Fairy†	purple	9
Generalissimo	purple	5
Huntsman	scarlet	9
Lady Elgin		
Lee Powell	yellow	9
Leshara	yellow	9
Malinda Brown	purple	9
Martin's White	white	9
Martin's Yellow	yellow	9
Pathfinder	yellow	9
Patricia Lehman	peach	9
White Cloud	white	9
White Tower	cream	5

NORTHEAST

J. Paul Keeney
Pittsburgh, Pa.

Variety	Color	Type
Autumn Parade	bronze	15*
Betty	pink	9
Carnival	bronze	9
Challenger	red	10
Charles Nye	yellow	8
Elegance	pink	6
Ermine	white	9
Goldlode	yellow	6
Harbor Lights	yellow	9
Heather Bloom	pink	9
Kingbird	pink	9
Christina	white	6
Kristina	pink	1
Lyric	white	1
Major Bowes	pink	6
Mrs. Kidder	yellow	6
Norma	pink	3
Orange Bowl	bronze	10
Paula	buff	12
Polaris	yellow	1
Polar Ice	white	9
Quaker Maid	white	6
Sunnyslope Splendor	white	15
Watanabe	yellow	9

NORTH

H. N. Metcalf
Bozeman and Corvallis, Mont.

Variety	Color	Type
Achievement	bronze	–
Bronze Mound†	bronze	9*
Cecil Beed	pink	9
Cody	violet	9
Chorale	pink	9
Clara Curtis	pink	1
Daisy Mae		
Dr. Graham		
Dr. Longley	orchid	9
Early Gold†	yellow	5
Golden Carpet	yellow	5
Joan Helen	purple	1
Pearl Parkinson	yellow	9
Pink Surprise	pink	
Plainsman	bronze	8
Prairie Gold	yellow	–
Powder Puff	white	8
Pigmy Pink	pink	–
Red Velvet	red	9
Santee	yellow	9
Summertime	yellow	1
Sunapee	gold	5
Tapestry	pink	9
Tecumseh†	bronze	9
W. P. Snyder	apricot	8
Yellow Avalanche	yellow	9

SOUTH

E. E. Puls
Hammond, La.

Variety	Color	Type
Betsy Ross	white	6*
Bittersweet	bronze	1
Blazing Gold	yellow	6
Bronze Dot	bronze	8
Bronze Orchid Queen	bronze	6
Dk. Pink Orchid Queen	purple	6
Detroit News	bronze	6
Dreamboat	pink	5
Frieda	pink	4
Good News	yellow	6
Jemima	red	5
Lillian Doty	pink	5
Major Bower	pink	6
Mary L. Hall	yellow	5
Mrs. David F. Roy	red	6
Mrs. H. E. Kidder	yellow	6
Nomago	bronze	15
Norma	white or red	3
Ohkwan	yellow	15
Paul Miller	bronze	15
Pandora	pink	5
Pink Dot	pink	8
Queen of the Pinks	pink	6
Susanna Miller	yellow	3
The Titan	red	3

WEST COAST

Marvin M. Beskeen
Sacramento, Calif.

Variety	Color	Type
Albert Witt	yellow	13*
Bess Witt	bronze	13
Broadacre	white	1
Citrus Queen	yellow	3
Connie Mayhew	yellow	6
Cossack	crimson	10
Cream Monument	cream	6
Fern Edwards	lilac	7
F. S. Parks	white	3
Fred Baker	purple	10
Lorraine	yellow	15
Louisa Pockett	white	7
Marsha	white	15
Masterpiece	pink	5
Milton Jones	bronze	9
Miss Frances Lowe	bronze	7
Monument	white	6
Paul Miller	bronze	15
Peggy Ann Hoover	orchid	13
Pockett's Maroon	crimson	11
Portsmouth Champion	bronze	11
Punch Bowl	purple	15
Reverie	orchid	3
Rose Madder	purple	3
Say Edgar	purple	6
Shirley's Perfection	pink	11

* Key to type: 1. single; 2. semi-double; 3. regular anemone; 4. irregular anemone; 5. pompon; 6. incurve; 7. irregular incurve; 8. decorative (pompon); 9. decorative (garden mostly); 10. regular reflex; 11. irregular reflex; 12. spoon; 13. quill; 14. thread; 15. large spider.
† Cushion type.

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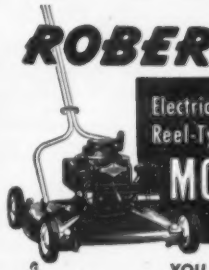
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25 from 156 varieties grown this year in their new test garden. He represents the East.

James R. Fleming, representing the Midwest, has a nursery in Lincoln, Nebraska, where winters are severe and summers dry. He says, "To be acceptable here, a variety must bloom normally by the first week in October." His selections were from 400 named varieties, based on the performance over two years.

J. Paul Keeney, past president of the Pittsburgh Chrysanthemum Society, has a nursery near Pittsburgh, Pennsylvania. He bases his Northeastern selection on a study of some 400 named varieties in 14 plots in a radius of 60 miles of Pittsburgh. He used as a yardstick the following points: healthy foliage, strong stems, lasting color, appeal to the visiting public and resistance to disease and insects.

Mr. and Mrs. Michael C. Berry have a garden of about an acre in size in Seattle, Washington. They represent the Pacific Northwest. They raise about 5,000 plants in 600 varieties and each year have a turnover of 200 or more varieties. In their selection, they had the help of some 8,000 persons who visited their garden.

Marvin M. Beskeen, Sacramento, California, not only has the varieties in his own garden but also the resources of the Sacramento Chrysanthemum Society, of which he is past president. His Southwest list represents the dryer and warmer parts of California, Texas, Arizona, etc.

These lists of 25 are not necessarily the "best" or even the "most popular." However, they may serve as guides and anyone growing the varieties in the region from which they are reported may be assured of success.

The hope that some varieties would

PACIFIC NORTHWEST

M. C. Berry
Seattle, Wash.

Variety	Color	Type
Admiral	red	5*
Apple Blossom†††		6
Autumn Amber†††		10
Autumn Song†††	rose	9
Betty	pink	9
Bluebood	red	9
Chopin	bronze	6
Courtier	lavender	9
Fred Yule†††	bronze	10
Kathleen Lehman	bronze	9
Limelight	yellow	9
Major Bowes	pink	6
Migoli†††	yellow	6
Monsul Dale	pink	10
Nightingale	green	15
Nomago	yellow	15
Pamela James†††	pink	10
Patricia Grace	pink	13
Patricia Lehman	peach	9
Peach Blossom†††	pink	10
Prince Charles†††	orange	10
Regina	coral	9
Sunstone	yellow	15
Varsity†††	crimson	10
W. E. Barton†††	red	10

††† English Early
* See Key Page 71

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appear on all lists thus giving a "master" list was doomed. Even the ever popular Betty appeared on only four lists; Major Bowes was found on three; and Mrs. H. E. Kidder, for three years running the first favorite of the NCS members, appeared on only two.

The diversity in varieties is a striking feature of the reports and is worthy of thought. It reflects varietal adaptations to climate, as was anticipated, and illustrates that hundreds, even thousands, of chrysanthemums are in cultivation.

A nationwide study of this sort has much to teach us. Many think that because chrysanthemums bloom in the colder portion of the growing season they are cold-climate plants. On the contrary, more of the better varieties are grown in the South than in the North. In fact, the last three NCS shows have been held in the South and this year will be in Atlanta, Georgia. The greatest diversity in type of bloom is found in California, Louisiana and Washington, where climate is favorable.—Edited by MRS. ERNEST L. SCOTT, Executive Secretary, National Chrysanthemum Society, 64 South Street, Bogota, N. J.

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With profuse illustrations, it gives down-to-earth facts on how to choose and start a plant; types of containers to use; desirable proportions to achieve, and other valuable suggestions on raising the artificially dwarfed bonsai. Copies may be obtained for $1.00, postpaid, from the Brooklyn Botanic Garden, 1000 Washington Avenue, Brooklyn 25, New York.

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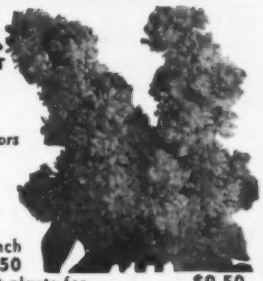

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Your Vegetable Garden

[FROM PAGE 51] vided by organic matter. In former days this was usually supplied by stable manures, but since automobiles do not provide this commodity, we must now depend upon compost, "green" manures (crops grown to be dug under to decay in the soil), and humus purchased in the form of peatmoss, prepared peat soils or commercial (dried) manures. This matter of humus is usually the weak leg, the one the beginning gardener neglects. Get all the humus-making materials, of any kind, that you possibly can. Humus keeps the soil porous and open, ready to absorb *and to hold* moisture, warmer in cold weather and cooler in hot, and easy to cultivate.

Plant food—the third essential—is more easily provided. For garden purposes any high grade complete fertilizer will do. Standard analyses vary according to soil conditions in different sections: 5-10-5 and 4-8-12 (the figures indicating percentages of nitrogen, phosphoric acid and potash), are those commonly encountered.

To prepare a vegetable plot, first, dig deep and pulverize the soil well; next, spread on humus-making material (2 inches or more of compost, peatmoss or its equivalent) and cultivate in as deep as you can; and last, add 3 to 5 pounds of fertilizer per 100 square feet whether you are planting vegetable seeds or plants, or both.

After the soil has been dug and enriched, the surface should be leveled and smoothed by a final going over with an iron rake. On new soil, this will usually require two operations; the first to remove any remaining roots and stones, the second to get a really fine, smooth surface. As small seeds are covered only ¼ to ½ inch, and as good germination depends largely upon having the soil in close contact with the seeds, this is most important.

It will both save time and assure a neater job if labels are prepared in advance and put in place exactly where each row is to go, according to a prepared planting plan. (See February

More Books to Watch For

PLANTS INDOORS: A GUIDE TO THEIR SELECTION, CARE AND USE FOR DECORATION by Mary Noble and J. L. Merkel, Van Nostrand, N. Y., February, 1954, $7.50.

FRUIT IN THE GARDEN by Norman Taylor, Van Nostrand, N. Y., February, 1954, $2.50.

THE EVERBLOOMING GARDEN by Norman Taylor, Van Nostrand, N. Y., February, 1954, $2.00.

HARDY RHODODENDRONS by Frederick Street, Van Nostrand, N. Y., March, 1954, $4.50.

Vegetables for Early Planting

Vegetables	Seeds or plants for 50 ft. of row	Depth in inches	Inches apart in rows	Distance apart of rows, inches
Beets	¾ oz.	¼	3–4	12–15
Broccoli	35	½	3–4	12–15
Cabbage	35	½	15–18	24
Carrots	½ oz.	½	2–3	12
Cauliflower	35	½	18	24
Endive (Witloof)	½ oz.	½	4–6	18
Kohlrabi	½ oz.	½	3–4	15
Leek	½ oz.	½	3–4	15
Lettuce plants	50	...	8–12	12–15
Lettuce seed	¼ oz.	½	6–10	12–15
Onion seed	½ oz.	½	2–3	12–15
Onion seedlings	150	...	4	12–15
Parsley	½ oz.	¼–½	4–6	12
Parsnips	¼ oz.	½	3–5	15–18
Peas, smooth	½ lb.	1–2	2–4	36
Peas, wrinkled	½ lb.	2–4	24–48	36–48
Potatoes	½ pk.	3–4	13	32–36
Radishes	½ oz.	½	2–3	12
Swiss chard	¾ oz.	½	8–12	15–18
Turnips	½ oz.	¼–½	4–6	15

issue, page 58). Now stretch a stout garden line as a guide, and mark the rows with a pointed stick along it. For very small seeds, the corner of a hoe (often advocated for this job) is much too large. Keep all rows perfectly straight and parallel. This is not merely a matter of neatness; it will be of great advantage in subsequent weeding and cultivating.

Do not sow seeds too thickly. To do so only means extra work in thinning out after the plants are up. With the back of a narrow-bladed hoe, firm seeds into the soil before covering to assure close contact. Then pull fine soil over the seeds to required depth, tamping down only lightly.

Larger seeds, such as peas and corn, are planted in furrows 2 to 4 inches deep. For early plantings, cover only 1 to 2 inches deep at first, and then fill in as the plants grow.

If you decide to set out *plants*—cabbage, broccoli, cauliflower, lettuce—make sure that they have been well hardened. Mark off positions in row; dig out a good trowel-size hole at each point and in the bottom mix thoroughly a trowel full of a mixture of three parts dried manure and one part bone meal; refill hole with loose soil and set plant. Press the soil around its roots *very* firmly, and deep enough so first leaves are just above ground level. If soil is at all dry, water thoroughly in hole *before* planting.

In case unexpected hard freezing weather threatens, plants may be protected by covering temporarily with plastic domes, hotkaps, or even newspaper tents held in place by soil.

With early planting finished, the gardener can relax, so far as his vegetable plot is concerned, for a few weeks. Chances are though that he will not! Instead he'll be poking in the soil to see if his seeds are beginning to sprout. Next month we will have something to say about their early care; and also how to get the tender crops planted.

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AND OTHER FLOWERS

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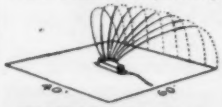

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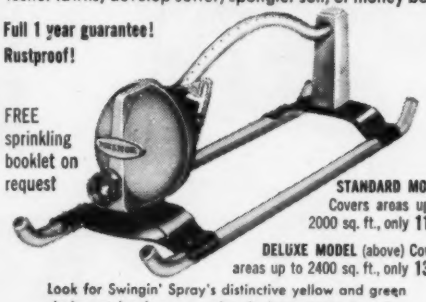

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Shade Problem

[FROM PAGE 55] violets require little care and give a bountiful harvest. Plant only the choicer named varieties and have something really good. In a corner, where you want to cover the ground and still have spring flowers to pick, put a patch of undemanding lily-of-the-valley.

Anemone hupehensis goes to 14 inches, and gives quantities of mauve blooms. At least three other varieties of anemone prove satisfactory. Then if there's a damp spot, forget-me-nots are fine, especially Myosotis palustris with its large, yellow-eyed blossoms.

In the cracks of the walk or in a rock garden try Arenaria verna, which thrives in either sun or shade, and has pretty white flowers. Also at home among rocks are lewisia, with beautiful rosettes of leaves like saxifrage and soft pink flowers on 8-inch stems, and sweet woodruff, a fine scented fern that reminds one of new-mown hay. This sweet woodruff makes a good groundcover, as do Vinca minor (Bowles variety, with blue flowers) and the extremely hardy Euonymus kewensis, with neat growth and rich dark green foliage.

In June, columbine blooms. I have never seen better columbine than in my shady garden. Mine are A. coerulea, but all do well without full sun. Iris is not supposed to be a shade plant, but I have fourteen kinds. While they may not do as well as in a sunny garden, I give them the highest, brightest spot I can, and they do not disappoint me.

Throughout the summer, the garden has plenty of flowers. Down the center of the same bed where the bulbs appear in spring is a collection of lilies. Not in a row, but in clumps spaced at intervals, are the regals, speciosum, formosanun., umbellatum, tigrinum (both single and double), the red mongol, and last but by far the finest of all, hybrid auratum.

Eupatorium, the hardy ageratum, is a robust plant, good in the wild garden but usable any place. The purplish blue flowers look much like the annual ageratum. And don't forget to put in a few ferns.

Two flowers of the field, meadowrue and meadowsweet, grow well and combine gracefully with other shady garden subjects. The first (thalictrum) has fine foliage and rosy purple blooms, and the second (Spiraea alba; the double ones are best) have tall, fluffy white panicles. The spiderworts (tradescantia), much improved in recent years, range from white through rose to purple. Persistent bloomers, they survive even bad neglect.

If you want a tall plant, use lythrum—not the old purple, but the new Morden's Pink that blooms most of the summer. Aconite or monkshood, either

Spark's variety or Wilson's tall beauty, will make up for the absence of sun-loving delphiniums. Another spike plant, liatris or gayfeather, performs beautifully for me with almost no sun.

Beebalm or bergamot in white, pink or red, the brilliant blue plumbago and paler blue pulmonaria are all well worth trying. If you want a daisy-shaped flower, purple coneflower (rudbeckia) stands shade and blooms profusely.

If the soil is damp, the yellow trollius will bloom, as will brilliant red Lobelia cardinalis and the plumy white snakeroot (cimicifuga). So will the black hellebore or Christmas rose.

Just one more suggestion will complete the list. Fuchsia magellanica, an out-of-the-ordinary plant, grows best in shade and blooms the summer through. The purple variety and the white one make excellent foils for each other. Not too hardy, F. magellanica can be trusted with protection in the New York latitude.

Don't be afraid of the shady garden. Just make one and go right on enjoying it, to the shame of those poor misguided mortals who will no doubt go on saying it can't be done.◈

Oakley V. Morgan, *left*, receives the Charles L. Hutchinson Medal from Jesse L. Strause, *right*.

Hutchinson Medal Awarded

• Oakley V. Morgan was the recipient of the Charles L. Hutchinson Medal for 1953. Each year the award is presented by the Chicago Horticultural Society to an outstanding horticultural leader. Mr. Morgan, horticulturist for the Commonwealth Edison Company, rendered great service to the Chicago Horticultural Society, and was an active leader in the Victory Garden program during World War II.

Mr. Morgan was also active in the formation of the Men's Garden Club of Chicago and later the Men's Garden Clubs of America, of which he was president in 1935. He has received many other honors, including a Certificate of Merit from the National Victory Garden Institute and a plaque from the Men's Garden Clubs of America.

EDITOR'S NOTE: AS WE GO TO PRESS WE HAVE RECEIVED WORD THAT MR. MORGAN DIED ON *Feb. 15, 1954.*

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Linda Darnell, Columbia picture star, planting a Hansen Bush Cherry tree.

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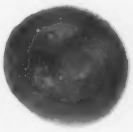

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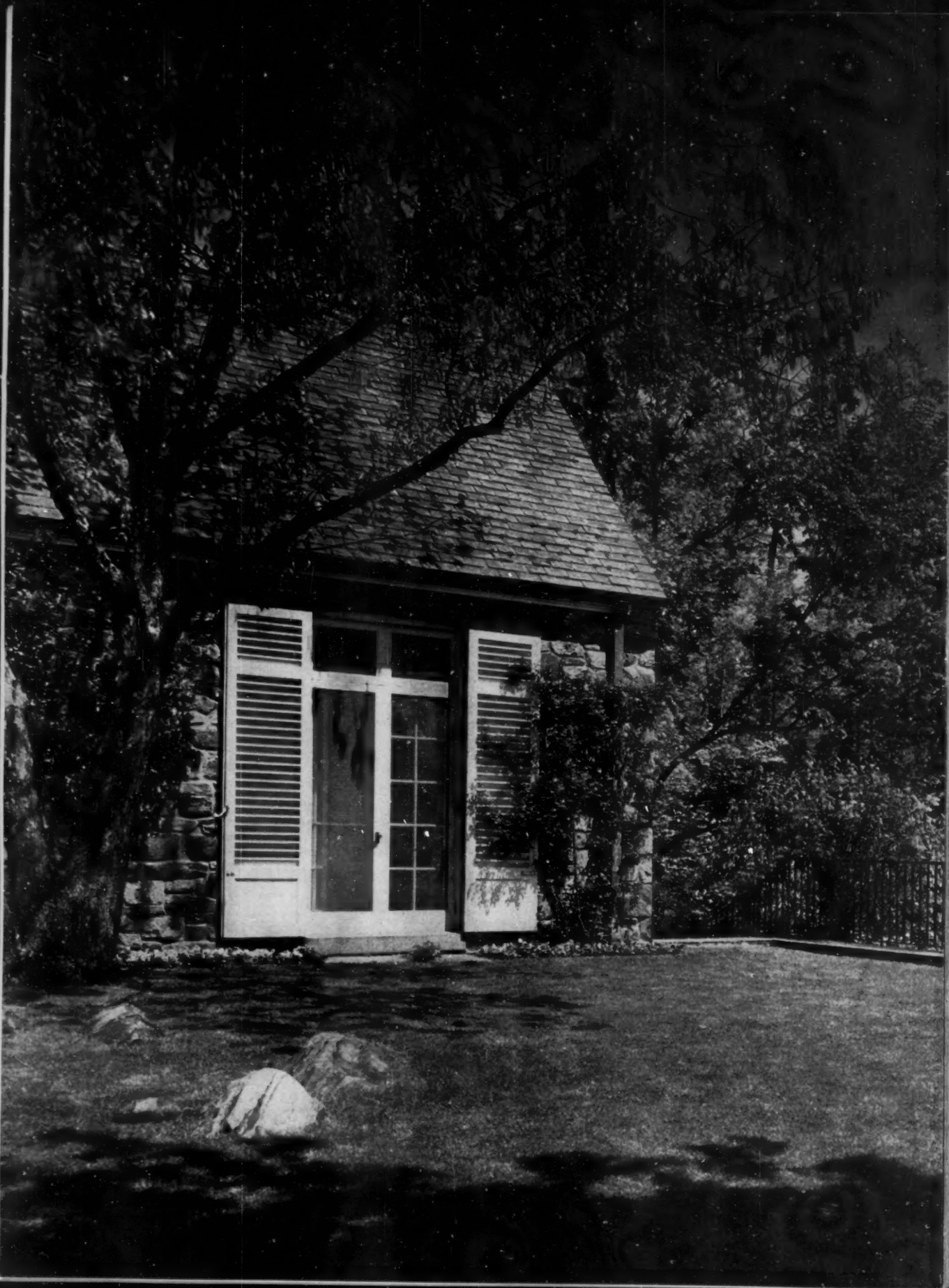
CITY_____ STATE_____

CARL A. HANSEN NURSERY BROOKINGS SOUTH DAKOTA



YOUR LAWN is the key to your garden

Call it the key, the carpet of your outdoor living room or what you will. Still, of all the elements that compose a landscape or garden scheme, none is more important than the lawn. The lawn is to the garden picture what a sweep of meadow is to the natural landscape. By the constant play of light and shadows over its surface, it gives life and movement to the whole scene. The lawn can be likened to a lake in a woodland setting which supplies an illusion of distance. In a scheme that relies so much on the varying shapes of trees and shrubs and the numerous hues and values of flowers, the lawn is the element that gives relief to the eye and therefore a feeling of relaxation.

But the lawn has other functions which are not always so pronounced. It is the link, the cementing principle of design called unity, that more than any other ties the house, the terrace and the garden parts into a whole. The lawn gathers and holds together a series of scattered, sometimes opposing elements, giving purpose to the scheme. It provides the setting for the outdoor living room, the tapestries of which, supplied by nature herself,

by P. J. MCKENNA

GOTTSCHO-SCHLEISNER

SCOTTS

Photographs:
GOTTSCHO-SCHLEISNER

Here, even a narrow lawn section provides welcome contrast to crowded, color-filled borders. The lawn not only accomplishes the objective of separating parts of the garden, but also holds together all the scattered components of the landscape scheme.

are in constant change, from one season to another.

Naturally the size of the lawn area has much to do with its effect for there is a relationship between the size of the lawn and the extent of the entire area to be planted. To reduce the lawn to the very minimum in the belief that this reduces upkeep is often as unsound esthetically as it is wrong practically. Maintaining a small grass area is sometimes a more complicated procedure than caring for large lawns.

Though we may talk of substitutes for grass—ground cover plants such as pachysandra for shade and memorial rose for steep, sunny banks, or flagstone paving, to name a few—actually there is no substitute for good grass. No other plant can supply an earth cover as quickly or as economically, allow itself to be used as a playground or sports area, in short take extreme punishment and so quickly renew itself.

And here's another aspect of the lawn all too seldom thought of: the temporary effect it has on temperature, especially on a hot day or evening. In its active growth process, grass, like all plants, continuously throws off moisture which cools the air in the vicinity. Paved areas reflect the heat, grass absorbs it. The difference in temperature between a paved area and the lawn may be as much as 20 degrees on a hot day.

Irregularities in the lawn surface, that is land contours or true differences in grade (not mere sunken areas or bumps which show poor grading), should be preserved where possible. These create the effect of more space. The area looks larger than if the surface is entirely flat. On a strictly level area, contours are difficult to simulate unless the area is large. The same effect can often be given by the use of trees and shrubs, which when skillfully placed, cast shadows and interrupt distance.

When is a lawn most beautiful? Some would say early in the morning when it is spangled with dew. For others who can see only the promise of spring when autumn arrives, a lawn is lovely when it is hoary with the first hard frost. And for the light-hearted, a lawn is something not only to gaze upon, but also to feel, especially with bare feet!

But the play of light and shadow which are constantly on the move give the fullest charm to a lawn area, especially if there is a balance between open and planted space. Care must be exercised that the trees cast shadows on your lawn and not on the area beyond your neighbor's fence. Shadows are longer in the afternoon when they creep outwards to change the hues of green. Then the lawn comes into its true place and perspective, giving a feeling of refreshment and repose as evening shadows fall.◈

When the home grounds are made up of such unrelated elements as rose beds, flower gardens, play area and terrace, as above, the lawn is responsible for giving the entire scene unity.

How satisfying would the scene below be without the presence of a lovely lawn? Serving the same purpose as a small pond, it points to the surrounding landscape of plants with different textures and forms, yet is beautiful enough to draw attention to itself.

When grass will not thrive—and we must face the fact that some areas, as below, may be just too shady—shade-tolerant plants such as pachysandra must be used. Other selections for such a location might be English ivy, ajuga, lily-of-the-valley or vinca (myrtle).

Lawns in the MIDWEST

R. Milton Carleton enthuses over the merits of Merion blue grass

THE MOST NEGLECTED PART of the home planting program is the lawn. Although grass and its care eat up the biggest part of the planting dollar, practically no research has been made into its problems.

If anyone feels that a scientific study of lawn problems is unnecessary, let him try to make sense out of recommendations by various authorities. Take for example the recommendation for new lawns to sow one pound of seed to 300 square feet and for old lawns, to sow a pound to 600 square feet. Just why is this rigid, exact specification repeated ad nauseum? Simply because fifty years or so ago, somebody picked that figure out of a clear sky, put it down on paper and from that day on, it was gospel.

But what grass seed are you sowing? Is it ryegrass or fescue with between 200,000 and 300,000 seeds to the pound? Is it Velvet bent with 6,000,000 seeds? Or Kentucky bluegrass with closer to 3,000,000? It makes a difference. In the first instance, we'll wind up with about five seeds to the square inch. If only one-third of them survive, we'll have a good temporary lawn.

If, however, we sow bent, with over 100 seeds to the square inch, we are practically mulching the soil with seed. If only one seed in ten survives, we are in serious trouble, with 10 plants to the square inch (each of which should occupy about one square inch). Grass does not tolerate crowding any more than does lettuce or petunias.

Why half the quantity when we are seeding old lawns? At first glance, this seems sensible, since we already have some plants growing and merely want to fill in bare spots. Actually, when seed falls between old plants, it has far less chance to germinate and thrive than when growing on an equal footing with other seedlings in a new lawn. Instead of using *less* seed we need to use more. Certainly, the question of how much seed to sow deserves far more attention than the parroting of a recommendation made 50 years ago without any scientific basis.

Another question that has been badly handled is that of when to reseed an old lawn to thicken up the old grass. Ninety nine out of 100 "experts" will advise sowing from mid-August to early September (which *is* the best time to seed a new lawn) or in spring, following rolling and topdressing, just after new growth starts.

For years, I have studied these recommendations and find they result in close to 100% waste of good seed. The young seedlings have very little chance to grow in competition with the established grasses, and soon disappear.

Another phase of lawn making that cries for study is that of the species used for planting. In the Middle West, every species (with one single exception) used for lawn purposes is an alien, exotic grass poorly adapted to provide a thick, green healthy turf in spring, summer and fall.

Perhaps the best example is Kentucky bluegrass. Even its name is a phony: it has been grown in Kentucky for less than 200 years! Most of the Kentucky bluegrass seed sold in the United States is harvested in Missouri. Its native home is Europe and the British Isles where temperatures over 80 degrees for any length of time are considered a heat wave. If it is exposed to temperatures above 80, it goes dormant, and does not revive until cool weather returns in autumn. By that time, the heat-loving weeds have taken over the lawn. Yet it is this grass which is recommended as the basic species for seeding Midwestern lawns!

Nor do the fescues and bents offer much more. If given fantastic care at high cost, bents make beautiful lawns, but are beyond the capacities of the average home owner. The fescues are so highly susceptible to leaf spot diseases that a clean healthy lawn of fescue is indeed a rare thing.

Since I have complained about the shabby state of lawn knowledge in the Middle West, I am obligated to suggest a remedy. The logical place to start is with the selection of the grass which is to be planted.

To my knowledge, there exists only one grass which evolved

naturally under conditions similar to those found in the Middle West. That grass is Merion bluegrass, discovered as an accidentally-developed variety in a turf near Philadelphia. This is the closest species we have to a native American grass that will keep growing in our summer heat, withstand leaf spot diseases, and make a dense solid turf which weeds cannot dominate.

My first recommendation, therefore, is that if the lawn is one where Merion bluegrass can be expected to survive, it is the only variety worth considering. I know of no other species which is as well adapted to our peculiar conditions.

Its needs are simple: First, it must have four hours or more of direct sunshine in mid-June (regular Kentucky bluegrass must have a minimum of six hours). It tolerates more shade than any other bluegrass. However, I would hesitate to recommend it as a shade grass where Poa trivialis or one of the fescues will grow. Second, it is not a lover of light soil. On lighter sandy loams, the lawn maker will have to do the best he can with the fescues. On soils ranging from medium sandy loam down to a stiff clay, however, Merion will thrive. And last, it is a grass that will thrive on far less moisture than other turf grasses (except Zoysia meyeri) but can't tolerate starvation. The lawn maker who wants the advantages which Merion has to offer must realize that the thick [SEE PAGE 102]

Lawns in the SOUTHWEST

Rosalie Doolittle lets us in on her "witches brew" formula

THERE IS NO SECRET FORMULA for a good lawn, wherever it may be planted. Results are always obtained if it is planted on a good seed bed, and if it has food and drink—in moderation, of course. Just as we humans are healthy on a regular well balanced diet, all things planted in a garden are content and healthy if the same pattern is followed.

Lawns in the Southwest do require some special attention which results in success. Last summer, a five-thousand-mile trip took us through the South and the Midwest. After arriving home, I was surprised to find that right here in Albuquerque were some of the most beautiful lawns I had seen. Fine lawns are even more numerous in Denver, Colorado and Los Alamos, New Mexico, and those I saw in Amarillo, Texas would satisfy anyone.

My own lawn, built three years ago for my new home, although not perfect, is among the best. I tried all my pet theories in it so it can almost be classed as an experimental plot.

Fortunately, no fill was needed as I kept the soil level 3 inches lower than the walk, driveway and curb levels to allow for buildup from "blow sand." This is one of the lawn owners' greatest nuisances in much of this area. In four years, I have seen a lawn level rise as much as 4 inches. Some lawn makers feel they must haul in new soil regardless. It is much more advisable to spend the money for more manure and peat moss. If fill is needed, never use the dead earth from basement excavations. All of our Southwest soil, with the exception of mountain areas, lacks humus. With the pine sawdust available for the hauling, I put 2 inches over the area (pine sawdust is not as good as that from oak or other woods). This I exposed to our Southwest sunshine for two months to leach away the resins. After all debris from building was removed, I covered the area with one inch of cow manure and had the area rotary tilled. It was carefully raked to remove heavy clods and stones. Next came 4 pounds per hundred square feet of my "witch's brew" which was mixed in one big pile before spreading. This, in equal parts, was sewerage sludge (Milorganite), soil or agriculture sulphur, super-phosphate, iron sulphate, cottonseed meal and sulphate of ammonia (to give the nitrogen which the sawdust would take from the soil until on its way to decomposition).

After this was spread over the soil, it was again raked and irrigated thoroughly. It stood a week or two while the sprinkling system was installed. If I had not been in a hurry to plant, I would have planted a cover crop or at least have waited a longer period for my "witch's brew" to start to work, and for weed seed to germinate. Again a thorough raking, followed by rolling. At this point, it all had to be very level. Peat moss was put over the top—

about a half inch in depth—and raked into the soil. It was lightly sprinkled and allowed to stand overnight. Early next morning, when there was no trace of wind, the blue grass and clover seed were spread. I walked in one direction and then crosswise to get complete coverage. Raking this time was light. The clover germinates quickly and is good for the soil although many dislike its appearance. I think it gives texture and interest to a lawn just as a deep, shaggy pile or cut design gives interest to a rug. The clover is good for the soil.

The seeded soil was not allowed to dry out until after germination was complete and it could gradually be weaned from so much water. After the lawn was established, because of water rationing, I wanted to see just how long it could go without water and still remain healthy. I found it could go four days if irrigation was thorough and deep. I always had difficulty in trying to persuade others to go this long. Lack of water is frightening and every gardener should make an effort to conserve it. I always irrigate after severe wind storms.

In maintaining the lawn, remove all weeds as they appear. Early morning irrigation—and never after 4:00 P.M. is the rule. This helps to prevent diseases. Dangerous chemicals and weed killers are not used. The time may come when this may be necessary, but I shall use utmost caution in selection and application. Lawns should be raked several times during severe periods of higher temperatures to aerate them. They should not be cut shorter than 2 inches. Fertilizer should never be applied in extreme heat. Early morning or evening is the ideal time. Of course, thorough watering after application is imperative.

We have our share of pests and diseases. There are army worms and sod web worms. Reliable products should always be used to fight these. Timing is important and several applications may be necessary. Proper morning irrigation helps in the protection from fungus diseases.

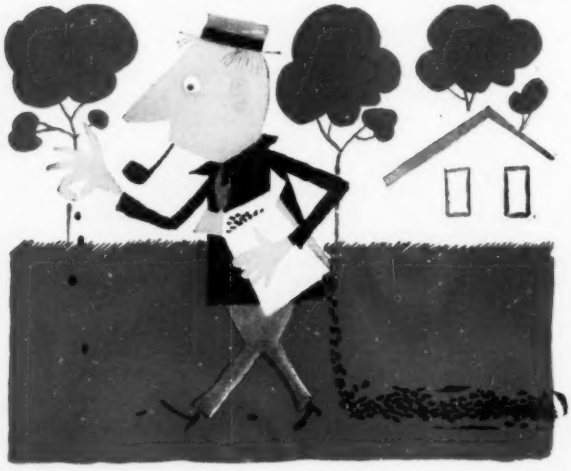
Crabgrass and dandelions are everybody's trouble. Daily digging is best. I had several patches of crabgrass too big to dig and I found Konc successful. It burned the clover, but did not kill the roots as some of the products I tried did.

The perfect grass does not exist although progress with new mixtures is being made. Bluegrass and clover are still best with Bermuda to serve the extreme southeastern areas of our Southwest. Good [SEE PAGE 94]

Lawns in the SOUTH

Ben Arthur Davis reveals that the zoysias are gaining in popularity

CENTIPEDE, ST. AUGUSTINE and the zoysias are being extensively planted in the Middle South and Deep South. Centipede and St. Augustine are well adapted for use in the sandy soils of the Gulf Coast areas. The zoysias give good results in the Upper South where they supplement



bluegrass and the other perennial grasses. The different forms of Bermuda and carpet grass are being used, but not so widely as formerly. St. Augustine and the zoysias are the favorite grasses for full shade. Both do very well in the sun as well, of course.

Dichondra has not been planted extensively. A three-year test on my own grounds showed a very heavy loss during two successive dry years.

Any balanced fertilizer will serve very well as a plant food for lawn grasses in the South, but preference is given high-test brands. Liquid fertilizers, applied with garden-hose attachments, are becoming increasingly popular—their use is definitely on the increase.

Experience tells us that the best watering technique for our long hot summers is to soak the ground to a depth of several inches and then apply no more water until the grass gets thoroughly thirsty and definitely shows need of water. The new soil-soaking watering devices seem to be preferred to other types.

In the use of new chemicals, Southern gardeners have been somewhat cautious about accepting them, but all doubt has been dispelled and many of the newly-introduced garden remedies are now being widely employed. Chlordane and Dieldrin are the accepted controls for ants and other pests; maleic hydrazide is coming into general use as a grass control; and 2,4-D and 2,4,5-T are the recognized weed and brush killers.

Seed of bluegrass is planted in the fall; centipede, St. Augustine and the zoysias, which are established by sprigging or sodding are planted in the spring or summer, preferably in the spring. Established [SEE PAGE 92]

Lawns on the WEST COAST

Norvell Gillespie finds that crab grass is biggest lawn problem

CRABGRASS CONTROL is a big problem here in the West. It is unfortunate that the average home owner is still having trouble with crabgrass killers, probably due to proper lack of identification of crabgrass. Lots of people don't know the difference between devil grass, bent grass, etc., and treat them instead of crabgrass. The first step is to identify your enemy—positively—before launching an attack. Another headache—people wait 'til mid-summer to start the fight against it. It is hard to kill then and besides, many of the crabgrass killers will not do a 100 per cent job, discoloring the lawn as well.

Gaining momentum here in the West, particularly in Southern California as well as in the Utah area, is the use of lead arsenate in the late winter and early spring months as a pre-emergence treatment to kill crabgrass seed, rather than the plant. Early spring would be better than late winter, despite the high-powered claims of the promoters of the product. (Pax is trade name of one).

Chlordane, especially in a 44 per cent liquid concentration, is the real answer to cleaning up pesky ants in lawns.

Maleic hydrazide has not caught on with the average home owner because it requires a little technical know-how for proper use and conditions must be right. Most home owners give up after the first failure. Its best use is for edging purposes. My prediction is that professionals will use it in greater quantities, while amateurs will tend to forget it.

2,4-D, and especially the new, improved formulations containing 2,4,5-T as well, are here to stay for control of broad-leaved weeds. Home owners are using them in great volume. The advantage of combining 2,4-D and 2,4,5-T together is that the low volatile ester lessens the danger of 2,4-D fumes harming nearby plants. The same material, besides killing lawn weeds, also kills poison oak, (big headache out here in the West), poison ivy, blackberry vines, willows, and other bushy plants.

The big trend in the last two years has been towards use of soluble fertilizers, including also those made from fish residue.

Southern Californians are still using huge quantities of weed-free steer manure for lawn feeding purposes.

The chief reason that the housewives are finding liquid fish fertilizers so useful is that they can be easily applied through handy lawn sprayers which fasten on the end of garden hoses for pressure and automatic dilution. Obviously, it is much easier for a gal to feed a lawn this way than to rassle with 100-pound sacks of fertilizer.

Much investigation work is going on at the University of California branch at Davis under the direction of Robert Hagen. These critical studies reveal that grasses root to much greater depth than commonly thought—Bermuda roots go down to 4½ feet, even bent grasses formerly thought very shallow, go reasonably deep. Studies also reveal that many grasses, which do *not* root deeply by habit, can be made to root deeply with heavy, infrequent applications of water. Merion bluegrass, for example, could go for 30 days even in this hot interior

country, without irrigation, as long as it was watered thoroughly when it was watered. There was no appreciable loss of color between drinks, either.

Merion bluegrass is being used in greater quantities this year, due to the fact that prices have come down and more of it is available to dealers. Much confusion still exists as to whether it should be used as a basic part of a good mixture (at least 30 per cent by volume to do any good) or whether to use it alone. In the opinion of many golf course superintendents it is best when used straight. An unsuspected weakness has just cropped out: it is susceptible to rust disease, particularly in periods of prolonged damp weather followed by heat. The disease is not fatal, but it still makes the lawn take on a rusty appearance. The general consensus is that it is still the most important development in the grass world in decades.

Dichondra is becoming more popular each season. Its greatest appeal to the new home owner is that it can get by on just two or three mowings per year. Its disadvantages: It often gets patchy, uneven, and brown for 60 to 90 days in summer immediately after the flowering period when the leaves drop off in great numbers. [SEE PAGE 90]

For lawns in the Northeast, see page 95

Q and A about lawns

Fred V. Grau answers your questions on lawn care

Q What is a good lawn?

A A good lawn is one that provides a good uniform appearance throughout the entire year. A good lawn must be resistant to wear if it is going to be used for neighborhood games. A good lawn should be weed-free. It should be a thick dense turf that will minimize injuries to active growing children. A good lawn should keep mud and dust out of the house. A good lawn should be cut closely for maximum enjoyment and usage. A good lawn is one that, when people walk on it, they say "Oh, just like a carpet."

Q Can I mix seed and fertilizer together and sow it on a prepared seedbed?

A This is a recommended practice.

Q Can grass seed be sown successfully in the fall after the time when we can expect germination?

A Yes. This is called dormant seeding and has been practiced for many years with a great deal of success. Many times it is more convenient to cultivate (aerify) the soil late in the fall, lime it and fertilize it, and sow grass seed even though one does not expect to see the grass seed germinate and grow until the following spring. Remember, this is a good recommended practice.

Q Besides a lawn mower, what tools are essential for good lawn care?

A Certainly one needs a cultivating (aerifying) tool to open and loosen the soil for the ready penetration of lime, fertilizer, water and insecticides. There are several cultivating machines, coring machines and spikers on the market. Here your best source of information is your nearest golf course superintendent. Call up the golf club, ask for the golf superintendent, and ask him what sort of tool you should have for cultivating your lawn. The local golf course supply dealer also can give you this information. In addition, you ought to have a sod plugger to move plugs of good sod to the worn or bare places for immediate repair. This really is far more effective during all seasons of the year than trying to re-establish grass by reseeding. Certainly you will need a lawn cart for hauling lime, fertilizer, soil and other things. You will need a lawn broom and, for my part, I like to have a lawn sweeper, something to remove excess clippings when they are heavy, and to remove leaves, twigs and other debris. A fertilizer spreader is not absolutely necessary on a very small lawn because you can do the job by hand. For larger lawn areas a spreader is helpful.

Q There are so many gadgets for watering lawns that I am confused. What is the best way?

A The best lawn watering device is a sprinkler that puts the water down in an even pattern, uniformly, at a rate at which the soil can absorb it. There is no use applying water faster than the soil can take it in. You just get runoff and waste water and that is very inefficient. There are a great number of good lawn sprinklers on the market which throw a good pattern and deliver the water uniformly. More important than the watering device is how you use it. Water should be applied to a lawn only when the grass needs it, and then the soil should be soaked to a depth of 6 to twelve inches. It should be allowed to become quite dry before water is again applied. We are going to learn how to save water rather than use it in abundance.

Q Should I mulch my lawn? How about leaving clippings where they fall?

A If the grass is thin and considerable bare soil is showing, by all means leave the clippings on the lawn. But, when you have a good solid dense turf and you get a flush of growth in the spring, then it is a pretty good idea to remove the excess clippings. Diseases develop under the clippings so rapidly that it is possible to ruin a stand of grass by leaving the clippings on for even a few days. I like to remove the clippings because it is something like sweeping up the litter on the living room rug after the kids have been in there on a rainy afternoon.

Q My lawn was full of crabgrass last year. How soon can I start fighting it this year and how?

A The best way to start fighting crabgrass this year is to begin planting those grasses that can crowd out the crabgrass. In the north, where bluegrass is used, Merion bluegrass will do a better job of fighting crabgrass than the common Kentucky bluegrass. Farther south, where zoysia can be grown, we know that zoysia will fight crabgrass on its own terms and win. Still farther south, Bermuda grass and zoysia and other warm-season grasses can fight crabgrass if they are properly managed, fertilized and watered. You can start fighting crabgrass on any day of the year when the ground is not frozen or bone dry. There are a number of chemicals on the market, many of which have given questionable results. Properly

used, chemicals are a wonderful tool in helping get rid of crabgrass, but we still must grow the type of grass that will crowd out the crabgrass. Why not drop a card to your county agent or to your local experiment station and ask them for their latest recommendations on controlling crabgrass in lawns.

Q What's the best way of feeding old thick turf? I've been told it is a good idea to punch holes with a spiked roller. Is it?

A The best way to get fertilizer into any kind of turf regardless of whether or not it is old or new, thick or thin, is to open, loosen and otherwise cultivate the soil to provide loose-walled cavities so the fertilizer can go deeply into the root zone. If this is not done, fertilizer will be lost by being washed away by rainfall. A spiked roller will help but, as the solid spikes enter the soil, they tend to compact the soil laterally rather than to loosen it and open it for rapid penetration of moisture and plant food. There are several devices on the market, including spiked rollers, spiked discs, coring machines, and cultivating machines with curved open spoons. Tests at experiment stations prove that cultivation of turf grass areas with the curved spoons is very effective in getting fertilizer deeply into the soil for greatest effectiveness.

Q Are the new zoysia lawn grasses hardy in the north? Are they planted differently from the usual lawn seed mixtures?

A Japanese lawn grass, including Meyer Z-52 zoysia, is hardy in the north. However, when one gets into the bluegrass-fescue-bent territory, the zoysias tend to develop and grow so slowly that most people become quite discouraged with them. Zoysia is finding its greatest application in the twilight or transition zone between the northern or cool-season grasses and the southern or warm-season grasses. A belt a couple of hundred miles wide, roughly between Washington, D. C. and St. Louis, Missouri, is the ideal location at the present time for the zoysia grasses. Here again, one should consult each individual experiment station or the local golf course superintendent to determine how the zoysia grasses are performing in that locality. Since there is no seed available of the zoysia grasses, most of the planting is done either by sprigs, by sod plugs or sod chunks. The sod plugger has been becoming very much more popular because it can be done quickly, with minimum effort, and the planting method is foolproof.

Q We made a new lawn last fall. What is the first thing we should do this spring? Should we roll it?

A Chances are that the rolling won't do very much good. In fact, it could do a lot of harm if you roll when the ground is too full of moisture. Probably the best thing to do first this spring is to fertilize the lawn. As soon as the growth has started and the soil moisture is right, it would be an excellent time to cultivate (aerify) the lawn and then apply the fertilizer. The fertilizer will be more effective by reaching the roots through the loosened, cultivated soil. The lawn that is properly covered with a dense, solid turf does not require rolling.

Q Is there any way to fill in or raise the level of low spots in an old lawn without making it over entirely?

A Yes. The good sod in the low spots can be cut out or peeled back with a spade or sod lifter. The soil underneath should be loosened and fertilized. Extra soil can be brought in to bring the low spot to a level grade, and then the sod can be replaced, tamped down firmly and watered. The repair should be complete and permanent. Another way to do it without removing the sod is to use a fork implement to raise the sod. Then by frequent applications of screened topsoil, the level of the low spot can be brought up and the grass can be kept growing through the fine topsoil until you effect a final repair. This will have to be done over a period of time, but it can be done effectively.

Q Is it practical to use tennis-court grass mixtures for home lawns where children give the grass hard wear? How long before such a lawn is well established?

A The grasses used on tennis courts are not necessarily those that would withstand hard wear on the home lawn. Here one should consult the authorities for the types of grasses that do best on athletic fields. The home lawn that gets hard wear from growing, active children is comparable with an athletic field. For most of the northern part of the United States, bluegrass answers the description, but the bluegrass must be adequately managed with soil cultivation, liming and heavy fertilizing in order to make it withstand the heavy wear. As you go south from the bluegrass area, you get into the fringe or transition area where an adapted bermudagrass or zoysia will best answer this hard-wear problem. In College Park, our lawn is composed of a mixture of zoysia and bermuda, and it gets just the kind of wear that an athletic field does and it stands up beautifully. Such a lawn can be established even while it is being used. In the south, of course, bermudagrass gives the highest quality turf for hard wear. Remember, however, that the management accorded these grasses is actually more important in helping them to resist hard wear than the grasses themselves. If they are starved, then one cannot expect them to stand up under this type of use.

Q What is the most practical way to eliminate moles from a lawn?

A Deny the moles their favorite food, which is grubs and other soil insects, and the moles will leave and do their feeding on the neighbors' lawns! The best way to get rid of the soil-inhabiting insects on which moles feed is to use one of the new modern insecticides. Your state agricultural experiment station can advise on the one that is recommended. It may be DDT, chlordane, Aldrin or Dieldrin. Since the recommendations vary according to the type of insects you have, it would be best to consult with your experiment station, county agent, or local supplier.

Q Many sections of my lawn are covered with moss. Does this mean that the soil is acid?

A Not necessarily. It probably is starved. Grass cannot grow unless it has plant food. In the absence of plant food, the grass becomes thin and practically disappears and then the moss takes over. Large areas of my lawn were solid moss when I moved there in 1946. By constant fertilizing, cultivating (aerifying) the soil, reseeding or replanting with adapted grasses, the moss today is completely non-existent.

Q Is it practical to sod an entire lawn? How does the cost compare with that of a seeded lawn?

A The cost of a sodded lawn is very much higher than when the lawn is seeded. In some cases the consideration of immediate protection from mud and dust outweighs the added cost. Unfortunately, in many cases sod that is used is not the kind of sod that is permanent and very quickly gives way to crabgrass and other weeds. Then the home owner is very dissatisfied and must go to the additional expense of re-establishing the lawn with adapted grasses. If sodding is contemplated, first be sure that the sod is composed of the [SEE PAGE 140]

New Lawn Tools for '54

You can bet your bottom dollar that fellow down the street with the beautiful lawn just didn't happen by it naturally. The chances are that he carefully prepared the soil before seeding; he used the right seed mixture; he follows a regular fertilization program; and maintains it with the *right* tools.

Careful selection of lawn tools pays off twofold: it will result in a better job and the job will be much easier to do. These tools should be selected for you and your particular lawn. One tool perhaps does wonders for your neighbor on his own lawn but would be out of place on yours.

Recently I had the rare pleasure—for a plain dirt gardener—of being able to see one of the largest assortments of lawn and garden tools assembled under one roof. This was at the National Garden Supply Trade Show, where manufacturers display their offerings, new and old, for the benefit of dealers and garden center proprietors. So, this month I'd like to tell you about some of the new lawn tools I saw on display.

Rainrite sprinkling system

Power lawn mowers really took the spotlight. Many entirely new models are being introduced this year and improvements on the older ones are countless!

In the MOWAMATIC line, for instance, there are three new rotaries (18-, 20- and 21-inch, the 20-inch is self-propelled), and their three reel-type models (two 18-inch and a 21-inch) have many new improvements.

The JACKSON mower line also sports three new rotaries for 1954. Two of these are electric, 16- and 18-inch, and the other is an 18-inch gasoline-powered machine. These would certainly merit investigation by owners of small lawns.

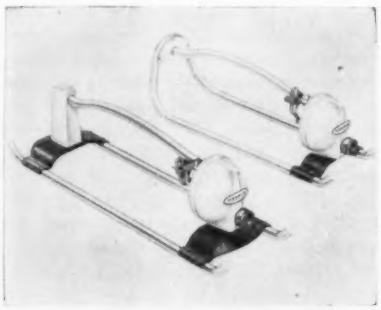
For those gardeners with literally "acres" of lawn, the TORO selection includes large rotaries as well as reel-type. They also have smaller machines for the home-gardener clan, too.

Before we get off the subject of power tools for the lawn, there's a new electric trimmer worthy of special note. This is the BANTAM, made by the E. F. Britten Co. It works on the whirling blade principle and is just as useful for trimming hedges as the lawn. But the new inovation is an edging guide which allows you to turn it on its side for use as an edger along walks and drives. This looks like a good two-in-one lawn tool.

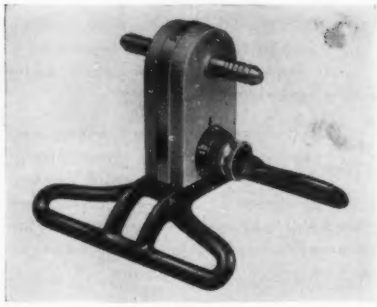
If you're like me, you never paid too much attention to the various engines available for different mowers. At the Garden Supply Show, though, I was able to see the difference. Basically, there are two types of engines: the four-cycle, which has been manufactured on a large scale for years by such concerns as BRIGGS & STRATTON, LAUSON, CLINTON and CONTINENTAL, and the two-cycle, much lighter in weight with fewer moving parts and greatly improved in recent years by POWER PRODUCTS.

Both types are used on power mowers and are made with either a vertical or horizontal shaft. The vertical shaft engines are used mainly on rotary mowers as the shaft points down and the blade is attached directly. This eliminates the use of belts, chains or gears. Horizontal engines are the mainstay with the reel type machines.

The difference in operation is primarily with the gasoline. In the two-cycle engine, the gasoline and lubricant are mixed and added at the same time—just like an outboard motor. On the four-cycle engine, gas and oil are added separately. Both types are good, but will only perform best when you give them the proper care and attention they need.



Melnor sprinkler



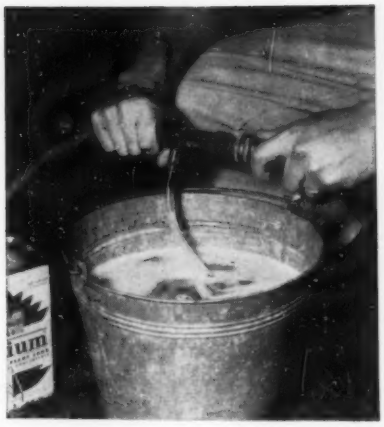
Waterite sprinkler

Although the big interest in the past few years has been on power mowers, there are still a lot of dandy hand mowers available. And, there are many situations where only a hand mower will do the right job of cutting. Hand mowers range in size from 12 to 18 inches. There are light models for banks and hilly places and there are heavier ones which do the best job on places too small for a power mower. A good selection of hand mowers is made by GRANITE STATE, PENNSYLVANIA and CLEMSON.

Just about this time the lawn looks nice and green, but it's not too early to start thinking about those hot, dry days ahead in June, July and August. Then a sprinkler must be put into operation. The best job of sprinkling (actually we should say "watering") a lawn, as we all know, is one in which the water soaks down to the roots where it's needed, not just on the leaves.

Like power mowers, a great deal of work has been done on sprinklers, all designed to give the best job of watering possible. In automatic sprinklers, there is the rotary type, which ordinarily sprays the water in a circular pattern, and the oscillating, which waters in a rectangular pattern.

Oscillating sprinklers have several advantages in that many times the entire lawn can be watered without moving the sprinkler and also on larger lawns you can avoid overlapping of watered areas. A new improvement on the MELNOR oscillating sprinkler is a permanently sealed motor which operates the swinging arm. An addition to the list of METCO sprinklers is a large model which



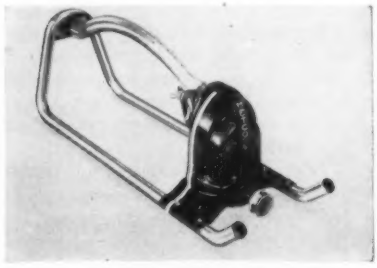
Foliator fertilizer applicator

is said to cover a 45- x 60-foot rectangle. Just one of these in the middle of my garden would take care of the whole place, lawn and all!

Among the time-proven rotary-type sprinklers is the SUNBEAM RAIN KING. This has a finger-tip control which lets you select the type of spray and diameter of spray circle you desire. A sprinkler which will cover a large area is the LONGHORN, made by National Manufacturing Co. It will water a 70-foot circle. PARK also makes a good line of sprinklers, rotary as well as stationary.

Stationary sprinklers have no moving parts and usually cover a circular pattern. However, the PARK model will spray in a half-circle. Also, the WATERITE, a new addition to the Scovill line for 1954, sprays in a rectangular pattern and has an adjustment dial to regulate the size of the area. This is something on a stationary sprinkler!

I don't know what catagory you could put the flexible sprinklers in, but regardless, they're extremely popular! These, of course, are the tube-type kinds which



Metco sprinkler

can be used on the lawn, along narrow grass strips, even down the garden rows. They're easy to store and you don't have to worry about parts wearing out.

The SUPPLEX is a triple-tube flexible with holes on one side. It lies flat and can be turned over for use as a soaker. Double-tube models are made by ANDREWS, RESINITE and GLENWAY. These work on a similar [SEE PAGE 108]

GARDENERS DIRECTORY

FLOWER GROWER 1954 CONSUMERS' GUIDE OF PRODUCTS USED IN LAWN MANAGEMENT

HOSES

ALANOL, SPECIAL, DURAPLY, WATER KING, ZEPHYR and STREAMLINER: plastic, 7/16, ½ and ⅝ in. inside diameters. Alan Plastics Corp., 120 So. 20th St., Irvington, N. J.

ALLGOOD. Two sizes, ¾ and ⅝ in. 2 ply rubber. SAXON: 1-ply rubber. ALLGOOD PLASTIC: green and red. Goodall Rubber Co., 426 Whitehead Rd., Trenton, N. J.

CLEARSTREAM. Vinyl plastic, ½ in. Yardley Plastics Co., 142 Parsons Ave., Columbus, Ohio.

COLORITE-AQUA-KING. 1-ply transparent plastic, ½ in. Colorite Plastics of N. J., Inc., 35-37 Iowa Ave., Paterson, N. J.

DREADNAUGHT. Two-braid, ¾ in. VIKING, 1-braid ¾ in. Raybestos-Manhattan, Inc., Manhattan Rubber Division, Passaic, N. J.

FAVORITE. 2-briad, ¾ and ⅝ in. RELIABLE, EQUALITY: 1-briad, ⅝ in. LITEWATE, 1-braid, ½ in. APEX, green translucent, ½ in. Acme Rubber Mfg. Co., Trenton 6, N. J.

GARDENETTE, TRUCORD, RIPPLE. 1-ply ⅝ in. VULCO, 2-ply ⅝ in. and ¾ in. MODERNETTE, SPRINGTIME, MARVEL-LITE, PLASTI-CORD, BRITE-LINE, plastic. Gates Rubber Co., 999 S. Broadway, Denver, Col.

HERCULEAN FEATHERWEIGHT. Vinyl plastic, 7/16 in. Herculean Appliance Corp., 1150 Broadway, N. Y. 1.

HEWITT, SENECA, double-briad, ORIOLE, single-braid, MOHAWK, single-braid. Hewitt Rubber Division, Hewitt Robins, Inc., 240 Kensington Ave., Buffalo 5, N. Y.

KOROSEAL. Green and red plastic. GARDEN CLUB, yellow plastic, SIGNAL GARDEN HOSE, black and green rubber. B. F. Goodrich Co., Akron, Ohio.

NYLITE. Red and green plastic, ½ in. DUNDEE, red and green plastic, ½ in. PALISADE, 2-ply rubber, SINGLE STAR, 1-ply rubber, ⅝ in. New York Belting & Packing Co., 1 Market St., Passaic, N. J.

PIONEER. 4 styles plastic hose and 5 styles of rubber. Pioneer Rubber Mills, 345 Sacramento St., San Francisco, Calif.

QUAKER. LAWNLINER, rubber, ⅝ in.; FLOWLINER, rubber, ⅝ in.; MAINLINER, 2-ply rubber, ⅝ in.; QUALASTIC, synthetic rubber, 6/16 in. PLASTI-FLOW, plastic, ½ in.; CLEARFLOW, plastic, ½ in. Quaker Rubber Corp., Philadelphia 24, Pa.

REPUBLIC. Various types and sizes. Republic Rubber Division of Lee Rubber and Tire Corp., Youngstown, Ohio.

RESINITE. GOLD STRIPE SUPER HOSE, plastic, GREEN STAR, clear green plastic. Resinite Sale Corp., Santa Barbara, Calif.

SANDEE FEATHER-LITE. Plastic, ½ in. THRIFEE, plastic, 7/16 in. Sandee Mfg. Co., 5050 Foster Ave., Chicago 30, Ill.

SUPPLEX. Plastic, two diameters. Supplex Corp., 225 North Ave., Garwood, N. J.

U. S. RUBBER RAINBOW. Two-braid, ⅝ in. NEPTUNE, ⅝ in. rubber. U. S. ROYALITE, U. S. FLEXLITE, plastic. United States Rubber Co., Rockefeller Center, New York 20, N. Y.

WINGFOOT, PATHFINDER, GLIDE. Rubber, various colors. FIESTA, VISILITE, VINYL JR., plastic models. Goodyear Tire & Rubber Co., Inc., Akron, Ohio.

NOZZLES

ALLENCO. JUSTRITE, JEWEL, STUBLY, all cast bronze. Rotation adjustment. W. D. Allen Mfg. Co., 566 West Lake St., Chicago, Ill.

CHAMPION. Brass, rotation adjustment. Durst Mfg. Co., Inc., 409 Lafayette St., New York, N. Y.

GREEN SPOT. Standard and heavy duty models brass or chrome plated. Scovill Mfg. Co., Waterbury, Conn.

KEYSTONE. Brass, rotation adjustment. Keystone Brass & Rubber Co., Broad St. & Lehigh Ave., Philadelphia, Pa.

LEVER SPRAY. Nozzle operates by compressing lever. Brass operating parts. Kay Products Industry, 1389 Sloane Ave., Lakewood, Ohio.

MEL-O-ROD. Aerates the water. 3-foot aluminum handle. Melard Mfg. Corp., 37-25 32nd St., Long Island City 1, N. Y.

SHERMAN JET. All brass construction. H. B. Sherman Mfg. Co., Battle Creek, Mich.

SPRINKLERS

ADAMS. Stationary: iron, circular spray. Adams Co., Dubuque, Iowa.

ALLEN. More than 12 models, stationary and revolving. W. D. Allen Mfg. Co., 566 West Lake St., Chicago, Ill.

ARMSTRONG. Rotary and stationary types in brass. PLASTIC SPRINKLER. Vinyl plastic tubing with holes all around. Armstrong Products Corp., Huntington, W. Va.

AVON. Oscillating type, adjustable to limited areas. Aluminum, bronze and stainless steel construction. Avon Mfg. Co., 383 Shrewsbury St., Worcester, Mass.

BIRCH. Stationary or rotary. Each sprinkler arm adjustable. Birch Mfg. Co., 1521 Sedgwick St., Chicago, Ill.

BROOKS. Rotary or stationary, circular area. Has built-in timer. John A. Brooks, Inc., 20122 Livernois, Detroit, Mich.

BROWNING. Rotary or stationary; brass and aluminum; circular or square area. Brown Mfg. Co., 8120 Center St., La Mesa, Calif.

COATS. GREEN THUMB SPRINKLER; rotary, circular or semi-circular area. Coats Standard Mfg. Co., Inc., 1111 Jackson St., Tampa, Fla.

COLORADO. Attachable to hose; plastic. Has prong which is inserted in ground. Curtice Mfg. Co., Inc., 1527 South Pearl St., Denver, Col.

CRYSTAL-MIST. Rotary; brass; circular area. Remote control by tug on hose, mounted on two-wheel truck. Chicago Roller Skate Co., 4458 W. Lake St., Chicago 24, Ill.

DAYTON. Rotary and stationary types, also permanent underground sprinkler heads. Circular or rectangular areas. Dayton Irrigation Co., 263 High St., Dayton, Ohio.

EMENEE. Rotary, plastic. Control at sprinkler. Emenee Industries, 3630 34th St., Long Island City, N. Y.

EVERSPRAY AUTOMATIC UNDERGROUND SPRINKLER. Complete systems for lawns of all shapes. Everhot Prod. Co., 2001 W. Carroll Ave., Chicago 12, Ill.

GATES FLEXIBLE SPRINKLER. Plastic tube 25 ft. long containing 1,000 pinsize holes. Removable cap permits flushing. GATES TOP-SPRAY SPRINKLER: sprays only from top of sprinkler. 50 and 25-ft. lengths. The Gates Rubber Co., 999 S. Broadway, Denver 17, Col.

GREEN SPOT. Rotary, stationary, hand or underground types. Circular or rectangular area. Control at sprinkler or faucet. Scovill Mfg. Co., Waterbury, Conn.

HUBBARD. Ball bearing rotary or oscillating types. Circular or rectangular areas. Hubbard Mfg. Co., 1614 Marquette Ave., Minneapolis, Minn.

IRRIVATOR. 3 ft. gal. iron pipe with brass connection to fit hose. Nozzle penetrates soil for root watering. The Irrivator Co., 989 Michigan Ave., San Jose, Calif.

Keeps grass in its place. Eliminates trimming and lawn edging. Stops bluegrass (including new Merion), quack grass, Bermuda, St. Augustine, bent and others from spreading into cultivated areas. Install it around trees, shrubs, foundation plantings, flower beds; along fences, hedges and driveways. Mow right over it trimming edge neatly. Gives your lawn that well-cared for look *with half the labor!*

NOTHING PROJECTS! Invisible. Diagram shows how No-See forms underground "fence" to bar spreading roots.

NO-SEE is made of corrugated galvanized steel. Sections two feet long by 4 inches deep key together with special clips. Easy to install; just drive down to soil level. Bends around corners or at right angle. Follows contour of soil.

Eliminates grass trimming and edging

BEFORE—Mower leaves grass and weeds around trees. Hand trimming is necessary.

AFTER—Trim as you mow! With one wheel in cultivated area, you trim edges neatly.

If your local hardware, nursery, garden or department store cannot supply you, order direct from one of the following:

Breck's
Boston, Massachusetts
Vaughan's Seed Co.
47 Barclay St., N.Y., N.Y.
10 W. Randolph St., Chicago, Ill.
Vonnegut Hardware Co.
402 W. Maryland St.
Indianapolis 9, Indiana

Farmer Seed & Nursery
Faribault, Minnesota
Security Feed & Seed Co.
Greenville, S. Carolina
Drumcliff Co., Dept. SE
Towson 4, Maryland
Montgomery Ward & Co.
(All mail order houses)

Western Seed Co., 1425 15th St., Denver 2, Colorado
F. W. Bolgiano, 411 New York Ave., N.E., Washington 2, D. C.
Hallawell Seed Co., 519 Market St., San Francisco 5, Calif.
Templin-Bradley Co., 5700 Detroit, Cleveland, Ohio

$4.98
40 feet postpaid

Manufactured by:
KEELOR STEEL, INC., 921 9th St. S. E., Minneapolis 14, Minnesota

GARDENERS'

SPRINKLERS CONTINUED

LAWNMASTER. Traveling lawn sprinkler. Covers circular area. Push-button control; automatic shut-off. Masterbuilt Prod. Corp., 325 S. Walnut St., South Bend, Ind.

LITTLE GIANT. Stationary, all metal with baked enamel finish. Circular area. Yoder Mfg. Co., 1823 E. 17th St., Little Rock, Ark.

MAJESTIC. Rotary type. Adjustable at sprinkler. Lafayette Brass Mfg. Co., Inc., 409 Lafayette St., New York 3, N. Y.

MARCH. Rotary, oscillating and fan types of brass or iron. Circular or rectangular sprays. March Automatic Irrigation Co., 1355 Spring St., Muskegon, Mich.

MELNOR'S SWINGIN' SPRAY. Oscillating, grease packed sealed motor. Ad-

West Coast Lawn Report

[FROM PAGE 85] thus giving a yellowish cast. It requires as much water and plant food as regular lawns, in my estimation. Curiously enough, dichondra is not "new." Apparently it was popular in the late 20's, then fell into disfavor because of a scarcity of seeds and because it became infected with nematodes. However, it is probably here to stay. I have heard reports of it being hardy enough to stand coastal conditions along the Gulf in Texas and Louisiana. It is used in the milder parts of California, but is seldom seen or advertised in the Pacific Northwest. I have never seen it around Victoria or Vancouver in British Columbia.

The following month-by-month calendar will give West Coasters hints for lawn maintenance.

JANUARY—Correct conditions of soil compaction due to too much foot traffic or tramping. Use one of the aerifiers which will pull out cores of soil. Some golf course people reseed so that grass seeds lodge in these holes and get off to a good start. A good time to apply lead arsenate type of crabgrass killer, which works on the seeds rather than the plants.

FEBRUARY—Fertilize—by applying just ahead of the normal flush of spring growth to put the turf in better condition to fight off weeds and fungus troubles later.

MARCH—Good time to plant new lawns and patch up old ones in California and the Southwest; however, in the Pacific Northwest dig the site on days when weather permits, work in rotted manure, chemical soil conditioners, etc., let the weeds germinate, kill them chemically, then plant grass seed following month when soil is warmer, so that germination is quicker.

APRIL—As soon as ground warms

DIRECTORY

justment control at sprinkler. Covers rectangular area. Melnor Metal Products Co., Inc., 10-40 45th Ave., Long Island City, N. Y.

METCO WAVE. Oscillating type; covers rectangular area. Faucet control. Metalizing Engineering Co., 38-14 30th St., Long Island City, N. Y.

MIST-O-LINE SPRAY. Covers area 4-10 ft. wide, 10 or 20 ft. long. Muellermist Irrigating Co., 2620 S. 9th Ave., Maywood, Ill.

MULTISPRAY HOSE. Soaks with a gentle spray through hundreds of tiny holes. 25- and 50-ft. lengths. B. F. Goodrich, Akron, Ohio.

EVERGREEN. Oscillating type sprinkler. Adjustment on sprinkler. **Evergreen** Co., Belmont, **Mich.**

up and day temperatures hit 70 degrees, it is safe to start using 2,4-D and 2,4,5-T combination sprays to kill spring weeds. Fertilize again.

MAY—Start checking for crabgrass seedlings. Use PMAS (phenyl mercuric acetate) or potassium cyanate. Experiments at Rhode Island Experimental Station proved PMAS compounds very effective against fungus troubles caused by brown patch, *as well as* crabgrass troubles.

JUNE—Expect outbreaks of sod webworm troubles and brown patch. Fight sod webworms with chlordane or lindane preparations; much more efficient than the out-moded lead arsenate. Also, go after crabgrass seedlings which you missed with the earlier application. Start watering thoroughly and deeply from now through early October.

JULY—Bent grasses, of course, should be cut at a height of a half inch the year round. However, other mixtures with a predominance of bluegrass should be cut higher—so raise the blades to 1½ inches.

AUGUST—Hot weather is really here! Turf uses more water so be sure to irrigate deeper. Plastic soil soakers are very valuable.

SEPTEMBER—Beginning of fall planting season for lawns, which traditionally opens in the West around Labor Day.

OCTOBER—Continue planting new lawns, also feed established lawns so that they'll be in good condition for the winter.

NOVEMBER—Planting of new lawns should be finished by the tenth of the month, if possible, except in the milder parts of California where lawns can actually be planted all year long.

DECEMBER—Take it easy—mow just often enough to keep the turf looking good.◈

You'll Have

NO CRABGRASS PROBLEM

with a MEYER ZOYSIA LAWN

A Meyer Zoysia lawn

This new grass makes a beautiful permanent summer lawn that keeps its rich green color through hot, dry weather. Its dense turf eliminates crabgrass and summer weeds.

Meyer Zoysia, developed by the U. S. Department of Agriculture and the U. S. Golf Association Green Section, gives you a beautiful green lawn when you want it most, during the hot summer months when other grasses wither and burn out and crabgrass takes over. It flourishes in hottest summer sun, will not grow in dense shade; is drought and disease resistant, can go weeks without watering. Loses color after heavy frost, regains it in the Spring. Can be overseeded for Winter color.

Meyer Zoysia has been featured in articles in FORTUNE, KIPLINGER MAGAZINE, SCIENTIFIC MONTHLY, PAGEANT, THE GARDEN JOURNAL and other magazines, as well as in many newspapers. Described and pictured in the August 1953 issue of NATIONAL GEOGRAPHIC, in article on Beltsville Experimental Station.

Meyer Zoysia is set out as plugs of grass into your existing lawn or newly prepared ground. It spreads to cover, crowding out old grass. Set in your lawn this Spring, will spread to cover next year in most areas.

With a Meyer Zoysia lawn your usual summer lawn problems will be ended. You will have a smooth, permanent, beautiful turf that requires little attention and upkeep; that will stay green during long, hot and dry summers.

ORDER NOW
for May Delivery, or write for complete information

$5.00 Pkg. ($5.50 west of the Mississippi) plants 50 sq. ft. on one-foot centers
$26.50 Pkg. ($27.50 west of the Mississippi) plants more than 280 sq. ft. on one-foot centers

As it spreads you can cut your own plugs for additional areas

Simple planting directions accompany each order . . .

LAWN GRASS DEVELOPMENT CO.
Dept. FG4 **Vienna, Virginia**

Young American Holly Offer

4 Named Pedigreed Hollies **$5.00**
(3 female and 1 male)

Plants 4 to 6 inches high, from America's most northerly Holly nursery.
Holly planting directions included. You can order direct from this ad now; postpaid.

Hardy Kaempferi Azalea Hybrids

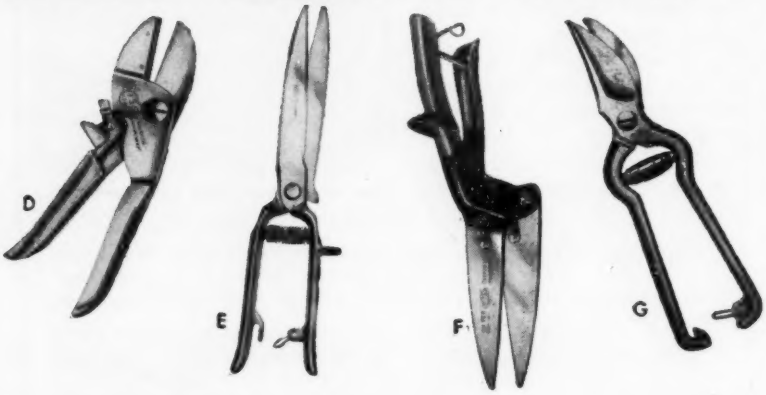
Plants 4 to 6 inches high. 4 named varieties—$3.00
12 Varieties available; color range; pink, red, purple to white.
3 Collections (12 plants, each one different) **$8.50**

PLANTING DIRECTIONS INCLUDED
All proven for hardiness

The Bosley Nursery **MENTOR, OHIO** Along Lake Erie

gardening is easier,
more expert, more fun
when you're equipped with

WISS Garden Shears



(A) WISS English Pattern Hedge Shears
Recognized the world over for finest craftsmanship. Rubber shock absorber to reduce jolt and arm fatigue. Special notch and cutter for heavy branches. No. 8½E, $4.95.

(B) WISS Flower Shears
Cuts and holds flower with one hand—one motion. Excellent for cutting roses in thick growth without scratching hands, and for flower arranging. A perfect gift. No. FH4, $2.25.

(C) WISS Lightweight Hedge Shears
A ladies' model, also popular as a grass trimmer. Extra light in weight and easy to use. No. 6½L, $3.25.

(D) WISS Hy-Power Pruning Shears
The favorite choice of both home gardeners and professionals. Their anvil-type construction permits a clean, powerful and effortless cut—no "chewed" edges. Cutting blade is hand-honed to knife keenness. No. 908, $2.75.

(E) WISS 5600 Grass Shears
Recommended by professionals. The only shears that will cut tough, wiry grass satisfactorily. Slender blades for close cutting around obstacles. No. 5600, $2.50.

(F) WISS 700 Grass Shears
Popular up-and-down handle action makes this model easier to use than other types. Handles contoured for greater comfort, with grip guard to prevent slipping. No. 700, $1.95. Also No. 500, $1.25.

(G) WISS Lightweight Pruning Shears
This model, of great cutting power, is especially preferred for fruit and rose pruning. Cuts close—and fast. No. 607-R, $2.50.

Note: Prices slightly higher in Denver and West

J. WISS & SONS CO., NEWARK 7, N. J.

Manufacturers of Shears, Scissors, Pinking Shears, Metal Cutting Snips and Garden Shears.

GARDENERS' DIRECTORY

SPRINKLERS CONTINUED

MAJESTIC. Stationary, adjustable spray. Majestic Mfg. Co., St. Louis 16, Mo.

NATURAIN. Stationary, aluminum and stainless steel. Rectangular spray area. Western Home Products Inc., 475 Franklin Tpke., Allendale, N. J.

PARK LAWN SPRINKLERS. Various models, rotary and stationary. Circular and half-circle spray areas. Park Sprinkler Mfg. Co., P.O. Box 6368, Jacksonville, Fla.

PARKER'S SKY-HI RAIN-ROD. Stationary sprinkler adjustable in height from 3 to 9 ft. TELESCOPIC SPRINKLER: 6-ft. aluminum tubes which lay on ground. Adjustable in length. Parker's Prod., 1853 S.W. Jefferson St., Portland 1, Ore.

PERFECTION. Rotary. Steel base and arms. Covers circular area. Faucet control. Perfection Sprinkler Co., Box 363. Ann Arbor, Mich.

RAIN BIRD. Rotary, brass. Circular spray area. Rain Bird Sales and Engineering Corp., 627 N. San Gabriel Ave., Azusa, Calif.

PROEN SQUARESPRAY. Sprays in square pattern up to 35 x 35 ft. Proen Prod. Co., 9th and Grayson, Berkeley 10, Calif.

RAINBOW. Rotary, brass, covers circular area. Control at sprinkler. Durst Mfg. Co., Inc., 409 Lafayette St., New York, N. Y.

RAINBOW, HI-BOY, RAIN CHIEF, LAWN CHIEF, RAIN WIZ, KEYSTONE. Rotary, stationary or oscillating; circular areas. Control at faucet and sprinkler. Keystone Brass & Rubber Co., Broad St. and Lehigh Ave., Philadelphia, Pa.

RAINRITE. Underground lawn sprinkler system kit. Plastic pipe and fittings. Will cover 1500 sq. ft. of lawn. Rainrite Sprinkler Co., Burbank, Calif.

RAIN-SPRAY. Rotary type sprinkler. Covers 56-ft. circle. Rhinehart Co., 1127 Polk St., Fort Wayne, Ind.

RESINITE. TWIN-TUBE FLEXIBLE SPRINKLER: two tubes, sprays 20 ft. wide. 25- and 50-ft. lengths. SOAKER-SPRAY: single tube plastic sprinkler. Resinite Sales Corp., P.O. Box 1257, Santa Barbara, Calif.

RIEGER RANGER. Rotary, circular area. Control at sprinkler. Reiger Mfg. Co., Miamisburg, Ohio.

ROSS. Many types, rotating, oscillating and stationary. Also underground sprinklers. Ross Sprinkler Co., 34 Roberts St., Pasadena, Calif.

ROTORFAN. Rotary, brass, circular area. Campbell Irrigation Co., Woodbury, N. J.

ROTOR ROCKET. Rotary, brass and aluminum. Circular area, faucet controlled. Moran Standard Parts Co., 10305 Dequindre St., Detroit, Mich.

Southern Lawn Report

[FROM PAGE 84] lawns are given at least three feedings during the season, one in early spring just as growth starts, another in early summer and a final one in early fall.

Where rye grass is planted for winter green over established lawns, cut it closely in the spring to admit sunlight—this keeps the permanent grass from dying out. With the coming of hot weather, leave the grass longer.

Regular, thorough waterings are necessary during the dry season.

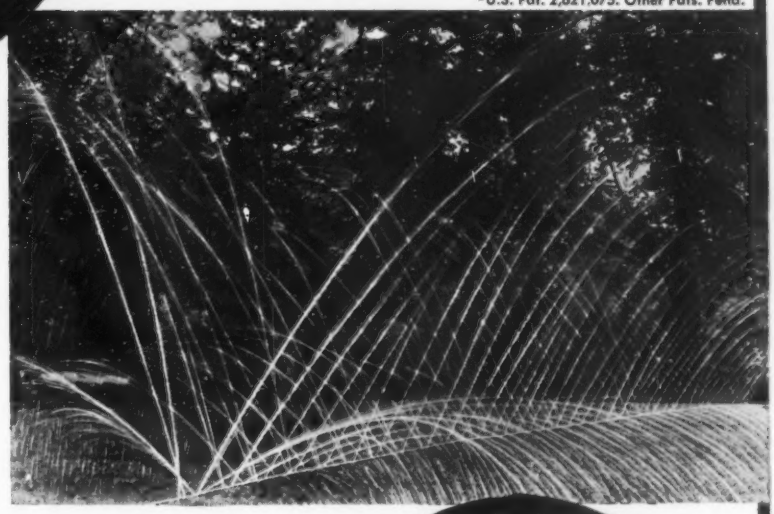
Right as RAIN FOR YOUR LAWN AND GARDEN

SUPPLEX *flexible* SPRINKLER

Do a better watering job, more easily, with SUPPLEX, the triple tube* SPRINKLER on a storage reel. Just roll it out on your lawn or garden, turn on the water, and PRESTO!—the most natural, gentle rainfall you ever saw, covering up to 1,000 square feet evenly, in one operation.

Triple tube SUPPLEX always lies flat, even when you curve it around walks, flower beds, or up and down grades. Because the holes are on the upper side only, it sprays upward only, **evenly watering a rectangular area up to 50 by 20 feet.** No dry corners or drenched centers such as you get with circular sprinklers. And the triple tube construction prevents the harmful downward jets (produced by single tube sprinklers) that waste water and may wash out your lawn. SUPPLEX is an excellent soaker too. As a Sprinkler or Soaker, once you see SUPPLEX in action, you'll know why it's right as rain!

*U.S. Pat. 2,621,075. Other Pats. Pend.



TRIPLE-TUBE

25 foot length covers a rectangular area 25 ft. long by 25 ft. wide (625 sq. ft.) **$3.98**

50 foot length covers a rectangular area 50 ft. long by 20 ft. wide (1000 sq. ft.) **$5.98**

PRICES INCLUDE STORAGE REEL

GET SUPPLEX GARDEN HOSE with this FREE REEL

So light you can pick up 50 feet of hose with one finger, reel and all. Yet so tough you can actually **shut it off at the nozzle** and leave it **under full pressure in the hot sun for days!** That's SUPPLEX GARDEN HOSE,—all plastic for light weight and TIRE-CORD REINFORCED for greater strength.

And tough, lightweight SUPPLEX HOSE is easier than ever to handle on this new sturdy FREE REEL. Just set it up near your faucet and reel out hose as you need it. No snags, no snarls, no struggling with hose. Wind the hose up again and leave it there on the reel all season, neither sun nor storm can harm it. Ask your dealer to show you the new SUPPLEX GARDEN HOSE ON THE FREE REEL. Water the easy SUPPLEX way from now on!

50 FEET ONLY $8.95

REINFORCED with TIRE-CORD

At better Hardware, Garden Supply, and Department Stores

SUPPLEX CORPORATION, Garwood, New Jersey, Dept. 21, Division of Industrial Synthetics Corporation

PERMANENT! ALWAYS BEAUTIFUL 12 MONTHS A YEAR!

ALL ALUMINUM *Trellis*

FULLY ASSEMBLED • NON CORROSIVE • HEAT-RESISTANT

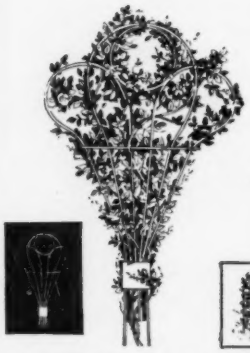
NEVER NEEDS PAINTING • ROT AND VERMIN PROOF!

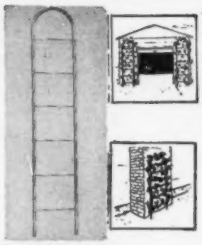
Now! New styles for every home or garden!

Never again disrupt your lovely, precious roses and climbing plants to repaint, replace or repair an eyesore, shabby wooden trellis! Put in a permanent ALL ALUMINUM trellis designed for your specific needs, and forget about painting, repairs, rust and corrosion. Thousands in use today! Completely assembled, gleaming all-weather trellis . . . practical, durable and heat resistant. Choose from six magnificent styles, ever so smart . . . always so beautiful, each designed to last a lifetime! Put these trellises in the ground now . . . before plants have reached full growth. Get a head start on spring and have the charm and grace of an ALL-ALUMINUM trellis adorning your home throughout the brown months . . . beautiful 12 months a year!

WONDERFUL PERMANENT GIFTS! ideal for Mother's Day, Father's Day, birthday, Easter, Anniversary, housewarming, etc.

INSIST UPON ALL-ALUMINUM! Every inch of each trellis shown is guaranteed finest quality, heavy tubular, seamless ALL ALUMINUM!





A. THE ROSE QUEEN
All-aluminum trellis that weaves a web of sheer symmetrical beauty! Ovals, curves and design galore. Rests firmly in the ground on six sturdy legs. 6' tall x 4' wide to give firm support to any bush or vine. Ideal for espaliering. Completely assembled.
Shipped postpaid.
Each 12.95 ..... **2 for $25**

E. THE COUNTESS
Probably the most beautiful arbor in the whole wide world! A truly magnificent real archway into a wonderland of floral beauty! Exquisitely designed of heavy, seamless all-aluminum . . . flowing symmetrically to an 8' height x 3'8" wide x 2' deep. Completely assembled.
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Each **$29.95**

D. MAJESTIC
Towering ladder trellis that's ideal for your problem chimney, garage, doorways, etc. Heavy all-aluminum seamless construction. 8' tall x 1'6" wide. Completely assembled.
Shipped postpaid.
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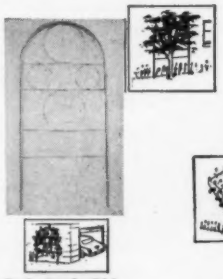
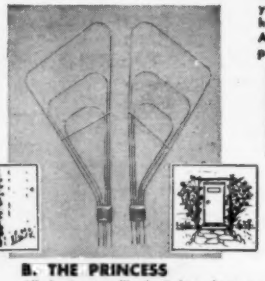
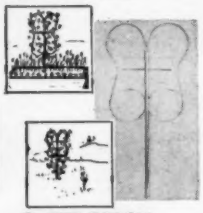
MAJESTIC EXTENSION—a matching 3' high extension that snugly fits the trellis making it as tall as you like. Use several to reach any height.
Assembled and shipped postpaid. Each **4.95**







C. THE DUCHESS
All aluminum trellis that stands 8' high x 3'8" wide. Heavy seamless tubular construction with 4 graceful ovals and tubular cross bars. Ideal for side of house, garage, garden or side of door. Excellent for espaliering. Completely assembled. Shipped postpaid. Each **19.95**

B. THE PRINCESS
All-aluminum trellis that's just about perfect flanking the door, driveway, walk, path, flowerbed, barbeque, corners, etc. Graceful, modern design, seamless construction. Reversible for right or left sides of door, garden or garage. Rests firmly in the ground and defies any weather. 8' high x 3' wide. Completely assembled.
Shipped postpaid.
Each 12.95 ..... **2 for $25**

F. THE BARON
Here's a trellis designed to dress-up "that corner" of your grounds, next to the steps, flowerbed focal-point, etc. Seamless all-aluminum construction with cross bar and symmetrical top. 4'6" high x 2' wide. Completely assembled.
Shipped postpaid.
Each **5.95**
2 for 11.50

MONEY BACK GUARANTEE within 10 days if not satisfied.

FREE!
. . . for a limited time only . . . a beautiful red everblooming climbing rose bush with each trellis order of $10 or more.

OLD COPPER MINE FARMS, Inc., R.D. 2 Box 198-93 Plainfield, N.J.
Yes! I want all-aluminum trellis. Please rush the following:

		QUAN.	TOTAL			QUAN.	TOTAL
A. ROSE QUEEN	12.95—2 for $25			D. MAJESTIC	12.95—2 for $25		
B. PRINCESS	12.95—2 for $25			E. COUNTESS	29.95		
C. DUTCHESS	19.95			F. BARON	5.95—2 for 11.50		
MAJESTIC EXTENSIONS 4.95							

Check or money order enclosed for $_____
NAME_____
STREET_____
CITY_____ ZONE_____ STATE_____

GARDENERS'

SPRINKLERS CONTINUED

SANCO. Rotary type, several models. Circular spray area. Sanco Products Co., P. O. Box 13, Ashtabula, Ohio.

SANDEE. Contour sprinkler. Inside diameter ¾ in. Sandee Mfg. Co., 5050 Foster Ave., Chicago 30, Ill.

SHERMAN. Rotary and stationary models under various names. Also ring-types. H. B. Sherman Mfg. Co., Battle Creek, Mich.

SKINNER. Rotary and oscillating types, brass. Rectangular or circular areas covered. Also underground systems. Skinner Irrigation Co., Troy, Ohio.

SOIL SOAKER. Porous canvas, attaches to hose. Water seeps through gently. Hastings Canvas Co., Hastings, Neb.

SPRINKLIT. Five brass sprayers with individual control at intervals along plastic hose. Howard Sales Co., 1650, Belmont Ave., New Hyde Park, N. Y.

SPRINKLEZE. Brass sprinkler with plastic hose. Fan-shaped area. Does selective watering of 5 areas. SOAKEZE: multiple root soaker. Attaches to hose. Has 5 outlets each with plastic hose of varying lengths. Jons Mfg. Co., 406 Dantzler St., St. Mathews, S. C.

SPARKS TRAVELING SPRINKLER. Will follow any predetermined course while in operation. Casalbi Co., Jackson, Mich.

SUNBEAM RAIN KING TRAVELING SPRINKLER. Rotary chromium plated.

Southwest Lawn Report

[FROM PAGE 83] reports are coming from growers of African Bermuda. Buying high-grade seed is important as many weeds come from a cheap grade.

The high alkaline content in our soils makes it necessary to select those fertilizers with an acid reaction. My goal for a perfect feeding schedule is never quite reached because of time and money, but here it is:

FEBRUARY—farmyard manure or compost.

MARCH—to each 100 pounds of sewerage sludge (Milorganite) is added 10 pounds each—soil sulphur, iron sulphate, superphosphate, cottonseed meal, and sulphate of ammonia. Use 4 pounds per 100 square feet.

APRIL—5-10-5—with one-tenth iron sulphate. Four pounds per hundred square feet.

MAY, JUNE, JULY and AUGUST—Rapid Gro, as directed.

SEPTEMBER—same as APRIL.

OCTOBER—same as MARCH.

Sometime I hope to have my soil so built up all this will not be necessary. Then I may have enough compost. A fine English gardener once told me it really takes two hundred years to build a good lawn! In this region the process will be slow because constant irrigation washes many of the minerals to the subsoil.

Use your lawn, enjoy it, feed and water it, and do not cut too short. Above all, do not worry about each bug or weed.◈

DIRECTORY

Circular area, adjustable. Travels along automatically. Non-traveling models available. Sunbeam Corp., 5600 Roosevelt Rd., Chicago, Ill.

SUPPLEX FLEXIBLE SPRINKLER. Plastic, seamless, triple tube with hundreds of openings along its 50-ft. length. Can be used as soaker. Supplex Corp., 225 North Ave., Garwood, N. J.

SWAN SPRINKLER-SOAKER. Oval shaped tube, one side perforated. Swan Rubber Co., Bucyrus, Ohio.

THOMAS GENTLE-FLOW IRI-GATOR. Aluminum with brass connector. Water oozes through bulb-like nozzle at end of hose. Thomas Mfg. Co., 3520 E. Monta Vista Dr., Tucson, Ariz.

THUNDERBIRD. Rotary, covers circular area. Mounted on two wheels for easy movement. M. W. Hartmann Mfg. Co., Inc., Hutchinson, Kan.

U. S. BRASS LAWN SPRINKLER. Rotary, brass. Circular spray, controlled from faucet. U. S. Brass Novelty Mfg. Co., 572 Wythe Ave., Brooklyn, N. Y.

WATERFAN. Oscillating or fanning; brass. Covers a rectangular area. Campbell Irrigation Co., Woodbury, N. J.

WATER WHIP. Covers circular area with whipping motion of rubber tube. Integrated Supply Corp., 47 Franklin Ave., Franklin Square, L. I., N. Y.

WHIRLING SQUARE. Covers square area. Dial controlled. Other models available. L. R. Nelson Mfg. Co., Peoria, Ill.

Lawns in the Northeast

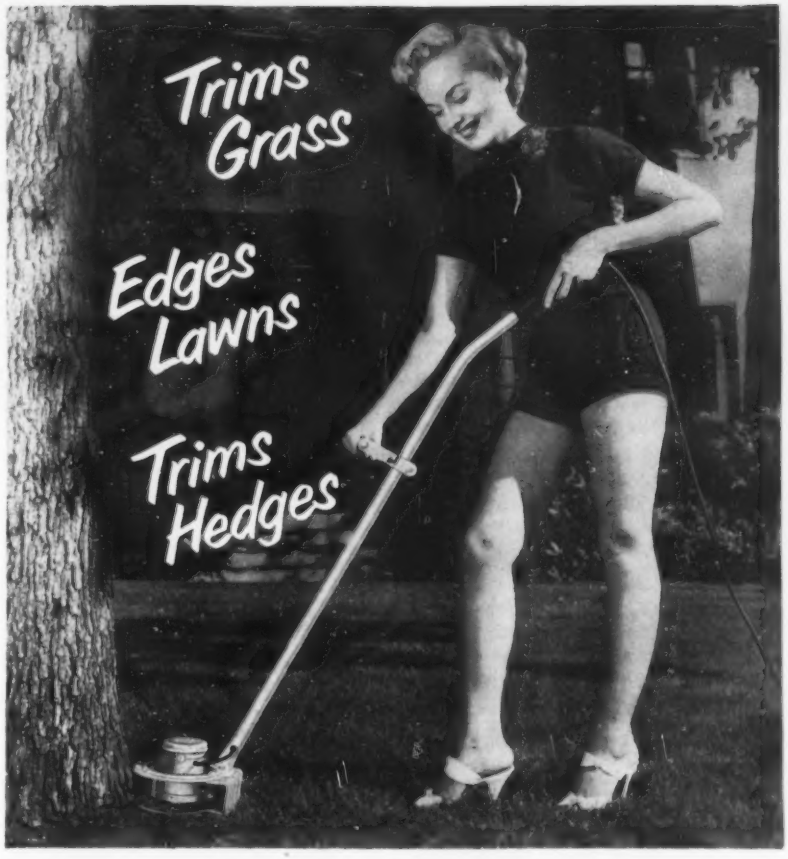
Dr. Ralph E. Engel reviews northern grasses

ALTHOUGH SPRING is not the ideal time for starting a new lawn, this is a good time to review the grasses which seem to thrive most successfully in this area.

Kentucky bluegrass is one of the most commonly used lawn grasses in the Northeast. It prefers cool weather, a fertile well-drained and well-limed soil. It does poorly in shade and on lawns that are cut at a height of less than 1½ inches. The Kentucky bluegrasses start slowly from seed, but the mature plants are aggressive and persistent when grown under favorable conditions.

Merion bluegrass is a Kentucky bluegrass strain that has given superior performance on the closer cut type of lawn. The seed supply is limited and the cost per pound is high.

Among the red fescues, Chewing's, Illahee, and Penn State Chewing's are some of the strains used on home lawns. The red fescues are tolerant of shade, acid, infertile, and dry soil. They have an attractive color and texture. Red fescues should not be cut closer than



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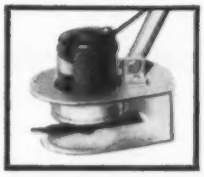
The most versatile electrical trimmers in the low price field. Does all three lawn care jobs with professional precision—an hour's trimming in 5 minutes. So light, so easy to operate, *anyone* can use it! See them at your hardware or garden supply dealer.



TRIM MASTER JR. For heavy duty lawn care. $44.95

TRIM MASTER BANTAM Priced for every home owner. $27.95

Write for complete literature

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ROSES

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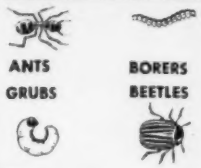
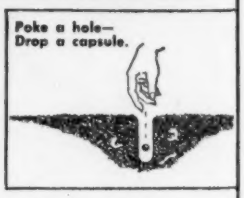
HAVE FINER, HEALTHIER PLANTS AND FLOWERS



Destroy ants, grubs and other unseen in-the-soil plant enemies in the ground—where they live and develop—with amazing new capsule that releases underground gas!



You can spray every day yet fail to eliminate the in-the-ground pests that weaken roots and decrease plant yields and blossoms. But by merely poking a hole in the soil and dropping a Fumi-Soil Capsule in it, you can get rid of below surface pests like borers, wire-worms, and nematodes—and you kill the beetles and other pests where they develop, *in the ground,* before they emerge. Fumi-Soil Capsules, containing pure Ethylene Dibromide, rupture in the ground and release an underground gas that's been proved 100% effective. Recommended by leading authorities. Sold on a money back guarantee.

SPECIAL INTRODUCTORY OFFER—24 Capsules for $1.00 Postpaid

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2109 Book Tower, Detroit 26, Mich. Enclosed is $_____
Please send me Fumi-Soil capsules by prepaid mail. (No. C.O.D.'s please)
☐ 24 - $1.00 ☐ 100 - $2.75 ☐ 200 - $4.50
Name_____ Address_____
City_____ Zone_____ State_____

Ceramo AFRICAN VIOLET Flower Pots

10 3" pots . . $1.65
8 4" pots . . 1.80
6 5" pots . . 2.15

Sent postpaid. Add 25c per pot west of Rockies

These famous Squatty Pots, of dark red clay, with their excellent porosity, are used and recommended by Florists. Specially treated edges help prevent sloughing off of leaves. We will replace all broken pots. Order today.

OZARK SPUNALUM CO., Box 59-AS, Jackson, Missouri

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I am so grateful I want to tell the whole wide world how I found a new way to relieve my Asthma attacks. Don't live in terror another day! Please write to me. No cost—no obligation.
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You Can With These Blue-Ribbon Animal Manures

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- LONGHORN BRAND CATTLE MANURE
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These time-tested organic plant foods and soil builders ensure luxuriously rich lawns, flowers, shrubs, trees, fruits and vegetables. Longhorn, Wizard and Ramshorn manures promote the beneficial bacterial action that releases dormant plant food in the soil. They supply humus and important food elements, aid drainage, improve soil texture and hold moisture.

Longhorn, Wizard and Ramshorn manures are 100% pure—completely unadulterated—dehydrated—pulverized—heat-treated—weed-free. They contain 2% nitrogen, 1% phosphoric acid and 2% potash.

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GARDENERS'

SPRINKLERS CONTINUED

WHITE SHOWERS. RAINBOW: oscillating, adjustable control at sprinkler or faucet. Mist nozzles also available. White Showers, 17514 Woodward Ave., Detroit, Mich.

WOLVERINE. Oscillating, brass and bronze. Faucet control. John Rust Mfg. Co., 632½ W. Patterson St., Kalamazoo, Mich.

WEEDERS—WEED CUTTERS

AMES. Various weeders. O. Ames Co., Parkersburg, W. Va.

BUFFALO BRAND WEED CUTTERS. Several models, cutlery steel blades. G. E. Ruhmann Mfg. Co., 801 N. Main St., Schulenburg, Texas.

CAPE COD WEEDER. Heavy steel blade. Tuck Mfg. Co., 74 Ames St., Brockton, Mass.

DANDELION WEEDER. Tumbled V. shape blade 1 in. wide. Geyer Mfg. Co., Inc., Rock Falls, Ill.

DANDELION WEEDER. Forged blade, length 45 in. NORCROSS WEEDERS: V point model. OUT-U-KUM puller with 2 prongs with cutting cross bar. C. S. Norcross & Sons Co., Bushnell, Ill.

DANDELION WEEDER. High carbon steel, V shaped. LITTLE GIANT WEED CUTTER: adjustable in length and cutting angle. LAWN RAZOR: cutter and trimmer using razor blades. North Wayne Tool Co., Oakland, Me.

DANDELION WEEDER. 3 models with V-shaped blades. Union Fork & Hoe Co., 500 Dublin Ave., Columbus, Ohio.

H-P WEED CUTTERS. 2 models, flat and serrated cutting blades. H-P Tool

1½ inches for the very best results.

The colonial bent grasses provide a dense, high quality turf. They are tolerant of wet, acid soils, but they are often severely troubled by diseases, especially when the turf becomes older. They do not fare too well in hot, dry weather, which makes them more useful in the New England states than in the New York City-New Jersey area.

Rough-stalked bluegrass, Poa trivialis, is tolerant of wet, shaded areas but tends to fail in hot, dry weather. It makes good quality turf and can be used for shaded lawns.

Perennial ryegrass is a temporary grass that has good color and grows quickly on poor soils that are properly limed and fertilized. In spite of the fact that it is a poor sod-former, intolerant of heat, and tough to mow, it may be classed as our most useful temporary grass.

Grasses that should be omitted or questioned for home lawns include Alta fescue and Kentucky 31 fescue which have some good qualities as turf grasses, but are too coarse for use on the average home lawn.

U3 Bermuda grass makes a good turf cover, and is tolerant of hot, dry weather. This makes it attractive for some of the sandy areas of New Jersey. However, its brown color for six months in the colder part of the year, and its threat as a weed in flower beds and gardens, cause many to question whether its good qualities

DIRECTORY

Mfg. Corp., 124 E. Cumberland St., Phila., Pa.

KELLY PERFECT WEED CUTTER. Serrated blade is elliptical shape. True Temper Corp., Cleveland, Ohio.

LIVELY LAD WEED CUTTER. 2 models, straight and serrated blades. LIVELY LAD WHIP: double edge cutting blade. Lad Mfg. Co., Inc., 800 44th Ave., N. Nashville 9, Tenn.

SEYMOUR. 2 models, straight and serrated blades. Seymour Mfg. Co., Seymour, Ind.

VILLAGE BLACKSMITH WEED AND GRASS CUTTER. 13 in. blade, serrated. The Village Blacksmith Co., Watertown, Wis.

FERTILIZER APPLICATORS

BRADSON GRO-GUN. Sprayer head attaches to end of garden hose on top of quart or half-gallon jar. One finger control for spraying fertilizer. Bradson Co., Inc., 10903 Chandler Blvd., North Hollywood, Calif.

FERTILEZE. FLOW MIXER: Stationary unit automatically feeds through garden hose or sprinkler. HAND SPRAYER: 12 oz. size, operated by garden hose pressure. Nutritional Concentrates, Inc., P. O. Box 309, New Lexington, Ohio.

FOLIATOR. Attaches to faucet or between lengths of hose. Feeder tube is placed in container of food solution and is sucked into hose water. Monsanto Chemical Co., St. Louis 4, Mo.

RIEGER HOSE-LINE FEEDER. Flexible plastic tube which holds Reiger Vitalizer tablets. The Reiger Mfg. Co., Miamisburg, Ohio.

outweigh its undesirable ones. U3 Bermuda must be propagated vegetatively.

The zoysias provide good turf in hot, dry weather, but they are brown for approximately six months in cold weather. They are tolerant of poor soils and are slow growing. However, their slow growth makes zoysia establishment a real problem. As with U3 Bermuda, it is questionable whether the advantages of zoysia outweigh the disadvantages, even for use on dry sandy soils. Zoysia starts very slowly from seed, making vegetative planting preferable to seeding.

Dichondra is used as a lawn cover in warmer sections but cannot be recommended for the Northeast because it lacks sufficient winter hardiness.

For crabgrass control, maintain a good grass cover through proper fertilization and high cutting. Avoid watering and fertilizing during late spring and summer. If chemicals are used for crabgrass control, apply them with caution. Their careful use, along with good management, can be very helpful; careless use can lead to failure and loss of turf. Keep crabgrass plants from going to seed, even if only a few are present in the lawn.

Soluble preparations of phenyl mercury acetate have given very good selective control of crabgrass. Applications by water spray have given more consistent results than dry applications which, however, may be more convenient

FROM Mowing TO Tilling...

IN LESS THAN 1 MINUTE WITH Triple-M QUICK-HITCH LOCK

For all-around, year-around ease, utility and economy, see Triple-M garden and yard equipment. In less than a minute, you can attach tiller, mower or snow thrower to your Multi-Purpose Power Unit, and you're ready for any kind of work. You just release the QUICK-HITCH LOCK to remove one unit; then roll in another; couple it; tighten lock by hand and you're ready to go. No shoving, no heavy lifting, no tools needed.

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F.O.B. Jonesville, Wis., in 50 lb. sacks

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Complete Postpaid

Keep an extra blade on hand 85c each. No C.O.D.'s.

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Travels any course up to 100 feet—straight or around corners. Shuts off automatically.

Winds up stainless steel tape to pull itself across lawn.

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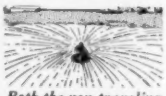
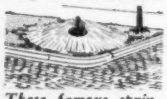


Both the non-traveling and traveling sprinklers give thorough, deep soil saturation.



These famous sprinklers give a natural rain-like shower.

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GARDENERS' DIRECTORY

FERTILIZER APPLICATORS Continued

ROSS ROOT FEEDER. Attaches to hose, spike end can be inserted into ground near roots. Ross Daniels, Inc., Des Moines, Iowa.

SPRAY-MIX. Dispenser for liquid fertilizer. Attaches to garden hose, filter tube is inserted in pail of spray mixture. Melnor Metal Prod. Co., 10-40 45th Ave., Long Island City, N. Y.

LAWN SWEEPERS

BUCKEYE. Sweep 20 in. wide. 4 bu. capacity. Mast-Foos Mfg. Co., 68 W. Columbia St., Springfield, Ohio.

EXCELLO. Width of brush 24 in. Capacity 5 bu. Heinke & Co., Springfield, Ill.

HOMKO. Sweeper has 4 rows of brushes. 6 bu. capacity. Western Tool & Stamping Co., 2725 2nd Ave., Des Moines 13, Iowa.

LAMBERT LAWNSWEEPERS. Two models, 21 and 30 in. Automatic brush adjustment. Lambert, Inc., Ansonia, Ohio.

MODERN INDUSTRIAL. 36 in. sweep. Gasoline powered. Sweeps hard surfaces and lawns. Modern Mfg. Co., 160 N. Fair Oaks Ave., Pasadena 1, Calif.

PARKERETTE LAWNSWEEPER. In 20 and 28 in. sweeping widths. Capacity near 6 bu. LAWNMASTER: powered by electric motor. SPRINGFIELD: hand operated. Parker Sweeper Co., 51 Bechtle Ave., Springfield, Ohio.

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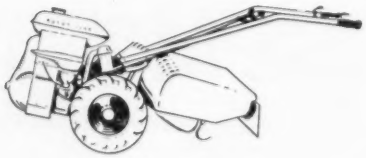

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for the home-owner, since the material can be applied by the fertilizer spreader. Light frequent applications have been superior to a smaller number of heavy applications. Best results are obtained if treatments—wet or dry—are made before the crabgrass becomes mature and heavily matted.

Potassium cyanate is useful for controlling crabgrass in the Kentucky bluegrass type of lawn. Usually late August (prior to crabgrass seeding) is the best season for treating. Discoloration will be less severe, and the recovery of the grasses will be more rapid if treatments are made in cool, moist weather.

Control of broad-leaved weeds: Dandelion, plantain, and buckhorn are easily controlled by the use of 2,4-D herbicides. Apply this chemical at the rate of $\frac{3}{4}$ to $1\frac{1}{2}$ pounds of actual 2,4-D an acre. It is effective most any time during the growing season, but it is desirable to make treatments in April, late August, or September. Use caution to keep 2,4-D off other valuable plants.

Maleic hydrazide might be given a trial for checking grass growth along walk edges and fences. Its use on general lawn areas is not recommended. Data has shown that checking the lawn grasses with this chemical reduces their ability to compete with crabgrass and clover. Since most efforts in lawn management are directed toward encouraging better growth, preventing growth with maleic hydrazide is somewhat con-

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RIDE-A-MOWER. Sweeper which attaches to back of tractor or rotary unit. Ride-A-Mower Co., 305 Knowlton St., Bridgeport, Conn.

SPREADERS FOR DRY FERTILIZER, ETC.

BUCH LAWN SPREADER. Equipped with square hole dispenser plates. 20, 25, 40 and 70 lb. hopper capacity. Buch Mfg. Co., Elizabethtown, Pa.

CYCLONE SEED SOWERS. Several models, knapsack type; half-bushel and peck capacities. POWER BROADCASTERS: power take-off from tractor and electric models. Cyclone Seeder Co., Inc., Urbana, Ind.

DOUGLAS LAWN SPREADER. Capacity 25 lb. spreads 16 in. Douglas Machine Prod. Co., Wyandotte, Mich.

GARDENAID FERTILIZER SPREADER. 40 lb. capacity. Eastern Tractor Mfg. Corp., 36 St. James St., Kingston, N. Y.

MASTERS PERFECT DISTRIBUTOR. Several models, 24 and 36 in. wide. Capacity from 65 to 120 lb. Masters Planter Co., Benton Harbor, Mich.

PLANET JR. Spreader with 14 in. width, 30 lb. capacity. S. L. Allen & Co., Inc., 5th & Glenwood Ave., Phila., Pa.

RIDE-A-MOWER. Spreads fertilizer, seed and topsoil; 75 lb. capacity. Ride-A-Mower Co., 305 Knowlton St., Bridgeport 8, Conn.

tradictory to all these other efforts.

Good lawn turf can be grown with either inorganic or organic fertilizers. The inorganic fertilizers produce a quicker response, especially in cold weather, and they tend to cost less for each unit of nitrogen. The organic fertilizers do not scorch grass when applied at normal rates, and they tend to give a delayed response, especially in cool weather.

Publicity has been given to inorganic fertilizers of higher analysis that contain no insoluble materials. While these concentrated materials are easy to use around the house, the cost per unit of plant food is usually far greater than in lower analysis inorganic (soluble) fertilizers. The grass will grow equally well whether it obtains its nitrogen from the ammonium sulfate or nitrate of the high analysis soluble fertilizer or the ammonium sulfate or nitrate in the soluble portion of a low analysis dry fertilizer.

Fundamental requirements for maintaining the Kentucky bluegrass—red fescue lawn are: (1) Apply 50 to 80 pounds of ground limestone per 1,000 square feet every 2 to 3 years. (2) apply fertilizer to encourage adequate growth, using 20 pounds of a 5-10-5, or 10 pounds of a 10-6-4, per 1,000 square feet in early spring and in September; (3) avoid close mowing of Kentucky bluegrass—red fescue lawns. Cutting to 1½ inches is suggested as a minimum,

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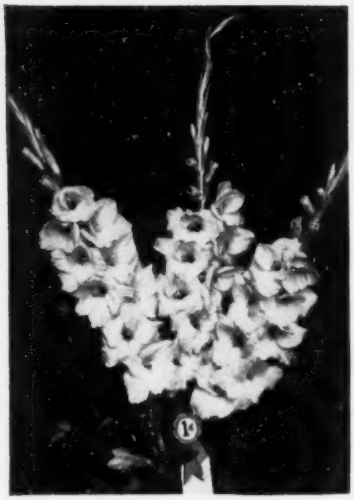

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All dark. No white or light colors. 100/$10.00, 50/$5.00, 25/$3.00.

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Unlabelled 25 beautiful varieties that are ruffled, rolled, fluted or lacinated. 100/$12.00, 50/$6.00.

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GARDENERS' DIRECTORY

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SALEM SPREADERS. Four models, 16, 20, 30 and 36 in. widths. The Salem Tool Co., P. O. Box 235, Salem, Ohio.

LAWN BEAUTY. Fertilizer spreader. Schneider Metal Manufacturing Co., Chicago, Ill.

SCOTTS SPREADERS. Four models of various sizes. O. M. Scott & Sons Co., Marysville, Ohio.

SEEDKASTER. Broadcasts seed or fertilizer. Holds 18 qt. Seymour Mfg. Co., Seymour, Ind.

SEEDERFEEDERWEEDER. Portable broadcast type lawn seeder. R. Krasberg & Sons Mfg. Co., 2501-25 W. Homer St., Chicago, Ill.

SPIKERS AND AERATORS

BOND SOD-SAVER. Hollow tines eject core when pushed into soil. Bond Mfg. Co., 335 5th St., San Francisco, Calif.

BUCH AERATOR. Hand pushed or pulled aerator-roller combination. BUCH AERATING FORK: aerating fork equipped with 3 spoons. Buch Manufacturing Co., Elizabethtown, Pa.

DELUXE DOUBLETINE. Ejects core with each insertion. Soilaire Industries, 1200 Second Ave., Minneapolis, Minn.

GARDENAID LAWN SPIKE-TAMP. Hand tamper with spikes. Eastern Tractor Mfg. Corp., 36 St. James St., Kingston, N. Y.

G-T AERIFIER. Pulled by garden tractor, cultivates 20 in. swath. JUNIOR G-L AERIFIER. Self-propelled cultivates 20 in. swath. West Point Prod. Corp., West Point, Pa.

KENSICO SPIKERS. Single, double and triple units for use with tractor. Kensico Mfg. Co., Inc., Hubbel's Rd., Mt. Kisco, N. Y.

SPIKE DISC AERATOR. Hand models and tractor attachments. Ohio Machine Prod., Columbus, Ohio.

SWETT SPIKE BOTTOM TAMPER. Base with 36 spikes. A. L. Swett Iron Works, 145 Glenwood Ave., Medina, N. Y.

with 2 or 2½ inches suggested where trouble is experienced with crabgrass, or in growing a good grass cover.

Lawn management factors that require irregular attention include control of Japanese beetle grubs. Apply 6 pounds of 10% DDT dust or an equivalent quantity actual DDT, *or* 5 pounds of 5% chlordane dust or an equivalent amount of actual chlordane per 1,000 square feet to give effective control of grubs. DDT appears to give more lasting control, (it should last for eight years at recommended rates), while chlordane gives quicker but less enduring control.

During periods of extended hot dry weather, application of water can be beneficial. Start watering when the soil is dry in the root zone and the grass shows sign of wilting and dying. Then apply the water very slowly and continue until the soil is moist to a depth of 4-5 inches. Avoid excessive use of water.

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AMES. Turf edger. Steel blade, 9 in. wide, 4¾ in. deep, 4 ft. handle. O. Ames Co., Parkersburg, W. Va.

BOLENS TRIM-MASTER. Positive cutting provided by easily adjusted cam followers. Bolens Prod. Div. Food Mach. & Chem. Corp., Port Washington, Wis.

BORDER BARBER. Self-sharpening blades are put into motion by rolling. Permanently lubricated mechanism. Dayton Aircraft Prod., Inc., 17 Stainton Ave., Dayton 3, Ohio.

BUCKEYE TRIMMER & EDGER. 10 in. wheel, semi-pneumatic tire. Tubular steel handle. Mast Foos Mfg. Co., 68 W. Columbia St., Springfield, Ohio.

BUFFALO & ECONOMY. Several models available. Blade and rotary disk types. G. E. Ruhmann Mfg. Co., 801 N. Main St., Schulenburg, Texas.

CAPITOL. 6 in. cut, 5 blades. Rubber tire, wood handle. Granite State Mowing Machine Co., Hinsdale, N. H.

CARTWRIGHT. Long handle edger, 12-in. blade. J. Cartwright & Son, Malaga, Calif.

EDGE-MOW. Converts present lawn mower into edge trimmer. Parker's Products, 1853 S.W. Jefferson St., Portland, Ore.

GARDEX. Several models, blade and wheel type. Gardex, Inc., 500 N. Carroll Ave., Michigan City, Ind.

GEYER. Forged blade with foot rest. Geyer Mfg. Co., Inc., Rock Falls, Ind.

Midwest Lawn Report

[FROM PAGE 82] vigorous growth of Merion turf calls for regular feeding. Two feedings during the growing season are needed for good results.

If these specifications can be met, the next problem is the rate of sowing. Here the old hand at lawn making may refuse to believe what he hears. I recommend seeding one pound, no more, to 1,000 square feet. The best sod of Merion I ever saw was in a turf nursery that used one pound of seed to 4,000 square feet! This sod was so thick that when the strippers cleaned off the plot, it was soon covered with new grass from the underground stolons left behind.

Unfortunately, thin seeding means that weeds will invade the sod for several months following planting. During the period when the seedlings are making root growth, they produce very little top. I have been criticized severely by more than one friend who followed my advice and planted Merion, only to be thanked warmly once the grass took hold. All of a sudden, something seems to happen. The roots are now ready to sustain heavy top growth. Almost overnight, the lawn becomes a dense thick green carpet, so tight that weeds can't grow in it.

From this time on, the amazing thing

DIRECTORY

IMPERIAL. Lawn edge trimmer. Cuts groove along edge, depositing cuttings on walk. Imperial Bit Snap Co., 1350 Clark St., Racine, Wis.

LYNDEN TRIMMER. Adjustable blade for various type edging. Lynden Metal Craft Co., 1001 C St., Lynden, Wash.

PENNSYLVANIA TRIMMER & EDGER. 6-in cut. Rubber tire. Optional equipment steel disc and plow for edging. Pennsylvania Lawn Mower Division, American Chain & Cable Co., Inc., Stevens Lane, Exeter, Pa.

PERFECTO. Single wheel blade; depth adjustable. F. C. Smith Development Co., 16120 Ferguson St., Detroit 35, Mich.

PINES LAWN EDGE TRIMMER. 6-in. spring steel circular blade. 49-in. handle. Capson Mfg. Co., 2565 W. Fullerton Ave., Chicago 47, Ill.

PLANET JR. Tempered steel disc blade. S. L. Allen & Co., Inc., 5th & Glenwood Ave., Phila., Pa.

ROTO-EDGER. 4 models. Shearing principle of opposing compression spring knee-action. Self sharpening. Earl L. Chadwick Co., P.O. Box 4100, Portland, Ore.

ROWEL-EZE. 3 models. Rubber-tired driving wheels. Tempered steel cutting blades, self sharpening. Rowe Tool Co., P.O. Box 3185, Glendale 1, Calif.

TRUE TEMPER. Round blades 4 in. wide, 4¾ in. deep, 4 ft. handle. True Temper Corp., Cleveland, Ohio.

WICK LAWN EDGER. High carbon spring steel, self-sharpening cutting blade; 4 in. rubber tire. Amplex Engineering Co., Inc., New Castle, Ind.

UNIVERSAL LAWN TRIMMER AND EDGER. Two models. 6 in. cut with edger. Trimmer model has rubber tires. Blair Mfg. Co., Springfield 7, Mass.

is the way a Merion lawn keeps growing. It will stay green at any temperature up to readings in the high 90s. If the 90-degree readings continue, it stops growing, but does not turn brown and go dormant. The plants stand still, but maintain a green covering for the soil.

This is being written during a winter warm spell with readings up to 35 degrees. Every time the temperature goes above 32, the grass shows green. Right now, my Merion lawn is greener in midwinter than my neighbor's bluegrass lawn was all summer.

I am convinced that when the home owner has established a good lawn of Merion bluegrass, 90 percent of his problem will be solved. Even in shade, and on lighter sandy loams, I would recommend a mixture of Merion grass with Penn State fescue and Highland bent as worthy of trial, on the chance that a percentage of this valuable grass will survive.

How about old lawns? Can they be converted to Merion by over-seeding with that species? The problem here is one of patience plus over-seeding at the right time. This winter I have been checking old lawns into which Merion was introduced three years ago. All of these now show it to be the dominant grass, though last winter little of it could be found. (The reason for checking during thaws in winter is that the Merion plants show up

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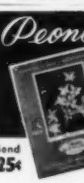

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GARDENERS' DIRECTORY

EDGERS and TRIMMERS CONTINUED

Power-Driven

ALL-IN-ONE ELECTRIC TRIMMER. Aluminum with tempered steel, 8-in. blade, adjustable head. Parker's Prod., 1853 S.W. Jefferson St., Portland, Ore.

BUNTON TRIMMER. Gasoline powered, two models—10½ and 12½ in. cut. Bunton Co., Louisville 2, Ky.

GOODALL ROTARY POWER TRIMMER. Gasoline powered. 10 in. Pneumatic tires. Goodall Mfg. Crp., 401 St. Anthony Blvd., Minneapolis, Minn.

HOFFCO. Gasoline power unit with trimmer scythe, saw attachments available. Hoffco, Inc., Richmond, Ind.

HORNET. Electric trimmer-edger. Handle adjustable for hedge trimming. Midwest Mower Corp., Hannibal, Mo.

KAUFMAN. Electric trimmer. Operates from house current. Kaufman Mfg. Co., Manitowoc, Wis.

LAWN SCOUT. Electric trimmer with rotary blades. Adjustable handle. Western Tool & Stamping Co., 2752 2nd Ave., Des Moines 13, Iowa.

MAGIC WAND ELECTRIC TRIMMER. Combination lawn edger and hedge trimmer. Apex Mfg. Laboratories, 964 Mission St., P.O. Box 283, South Pasadena, Calif.

MODERN POWER EDGER & TRIMMER. Gasoline powered, 2 HP. Mounted

dark green against the dead brown of the original plantings.)

Success cannot be had in less than three years. I do feel the wait is worth the effort. The time of seeding is very important. It must be done before March 1st (possibly somewhat later as far north as Minnesota). The trick is to scatter the seed between the old grass while it is dormant and will not compete with the new seedlings, and when the honeycombed surface is in condition to protect the seed.

Even with this protection, however, less than one seed in 100 will survive. That is why I recommend sowing one pound of Merion to 600 square feet when overseeding an old lawn.

Since there will not be enough seed of Merion bluegrass to go around, the home lawn maker may have to do his patching with other species. If so, try seeding these at the rate of a pound to 300 square feet on old lawns. On new lawns, a pound to 500 square feet for bluegrass is not too thin.

I feel it is a waste of good money to sow seed without treating with a good fungicide like Arasan or Spergon. Treatment costs a few cents a pound and makes the seed go at least one third farther. A 25-cent packet of Arasan used on a pound of Merion bluegrass that costs $5 will make that pound do the work of $7.50 worth of seed without treatment. Since Kentucky bluegrass is today selling at

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on 3 wheels. Modern Mfg. Co., 160 N. Fair Oaks Ave., Pasadena 1, Calif.

O-K ELECTRIC GRASS TRIMMER. Operates from house current. J. A. Orr Co., 10019 S. Western Ave., Chicago 43, Ill.

RUHMANN'S ELECTRIC GRASS TRIMMER & EDGER. Cuttings tips of high speed heat treated steel. Slow speed motor. Also available, two heavy duty models, one gasoline powered, the other electric. G. E. Ruhmann Mfg. Co., 801 N. Main St., Shulenburg, Texas.

SKIL. Electric trimmer. Operates from house current. Skil Corp., 5033 Elston Ave., Chicago 30, Ill.

SPINAWAY TRIMMER. Gasoline powered with 1.6 HP engine. Hal-Gan Prod., Inc., Blue Mound Rd., Elm Grove, Wis.

STANLEY GRASSHEAR. Electric trimmer with sealed ball bearings. Large and small models. Stanley Electric Tools, New Britain, Conn.

TRIM MASTER JR. Electric vacuum trimmer that can be used as edger. TRIM MASTER SR.: gasoline powered model. TRIM MASTER BANTAM: electric, small model. E. F. Britten Co., Inc., Cranford, N. J.

MULCHERS

Leaf mulchers are available as optional or standard equipment on most all rotary type lawn mowers, electric or gasoline powered.

the highest price in history, seed treatment of that species is just plain Scotch sense.

More seed is probably killed by drying out than by any other agency. Regular watering saves seed. I set the sprinkler so it will cover the seeded area without moving. Every morning that rain is not predicted, I turn on the sprinkler for half an hour. In the evening, it is again turned on for 30 minutes. This sounds like a lot of water, but it certainly gets the seed off to a good start. In the end it saves time, labor and money.

As long as I am attacking practices hallowed by time, I might as well go the whole hog. One of my pet peeves is the heavy lawn roller—a device of the devil for destroying lawns! We know that the worst enemy of the established lawn is compaction—the packing-together of soil particles until air and moisture are driven out. Yet we strain heart, lungs and backs every spring, beating down the damp soil into something resembling concrete, under the illusion that we are "helping" the lawn.

Where frost action and worm casts make the lawn lumpy, a very light roller, barely enough to gently press the offending lumps into place, might be used. Major changes in levels ought to be made by cutting and filling, not by mashing down the soil to a point where it is unfit as a habitation for grass. Actually, the action of the roller behind the mower

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NOTICE!

You can't afford to let any stock die which you have already paid for and which you will transplant this Spring.

You have one guaranty of their living—100%—soak the roots in RA-PID-GRO and use RA-PID-GRO in your transplanting operation.

When sowing your seeds this Spring, all large seeds, soak in RA-PID-GRO, and all smaller seeds, soak after sowing in the rows.

If you will do this you can be sure that all plants will grow and all seeds will germinate. You will find full directions in the chart.

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10 lbs.	8.75

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GARDENERS' DIRECTORY

POWER MOWERS

AIR-ELECTRIC. Gasoline Mowers. Air-Electric Mach. Co., Lohrville, Ia.

BIG CHIEF. Gasoline powered rotary: 18 and 20 in. cut. Carl Black & Associates, Quapaw, Okla.

B-M MOWER. Gasoline powered rotary type: SUPER-CUT, 18 in., 20 in., 22 in. B-M Mower Co., Box 66, Blue Mound, Kan.

BLAIR. Gasoline powered reel type: 18 and 21 in. models. Gasoline powered rotary: 18 in. Blair Mfg. Co., Springfield 7, Mass.

BOLENS. Gasoline powered rotary type: 18 in., two models; 20 in., two models one self propelled; 21 in. Gasoline powered reel type: 18 in., two models; 21 in. Electric rotary: 18 in. Bolens Prod. Div., Food Mach. & Chem. Corp., Port Washington, Wis.

BUCKEYE POWER KING. Gasoline powered reel type, 20 in. cut. Mast-Foos Mfg. Co., 68 W. Columbia St., Springfield, Ohio.

CLEMSON. Gasoline powered mowers in various sizes and types. Clemson Bros., Middletown, New York.

COOPER KLIPPER. Gasoline powered reel type, 18 and 20 in. models. CYCLO-MO: Gasoline powered rotary 18 and 20 in. models. Cooper Mfg. Co., Marshalltown, Iowa.

DAVIS. Gasoline powered reel type: 18 in. and 22 in. models. Gasoline powered rotary: 18 in., two models; 16 in., and 20 in. Electric rotary: 16 and 18 in. models. G. W. Davis Corp., Richmond, Ind.

ECLIPSE. Gasoline powered reel type:

should be enough to keep level any soil fit for growing grass. If the soil needs more attention than that, a major rebuilding job may be in order.

As for other grasses, which are being talked about, dichondra is entirely outside the pale for lawns in the Midwest. It just won't survive our autumn frosts, let alone winter. Zoysia japonica, the only species hardy with us from seed, is a ragged, dirty grass not worth sowing. Zoysia matrella is not reliably hardy. Zoysia tenuifolia is even more tender.

We sell Zoysia meyeri (as plugs for inserting into old lawns) but certainly do not recommend it for use north of the Kentucky-Tennessee line. In any area where Merion bluegrass will thrive, there is little use for Meyer. Where it slows down in hot summer weather (as it does in Washington, D. C., and the South, for example) a mixture of Meyer and Merion makes an excellent lawn. Meyer alone should be restricted to sections where the first frost comes late.

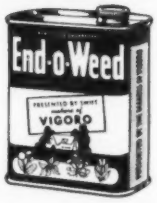
Here we find that the first frost browns out our test plots of all zoysias, and they stay brown until mid-May or later. In the meanwhile, Merion bluegrass is green whenever the temperature is above freezing. We just don't need zoysias. Perhaps out on the Great Plains, south of Kansas, mixtures of Merion and Meyer have

Weeds up and coming!

keep your lawn weed-free with

End-o-Weed

SO EASY AND QUICK. JUST MIX WITH WATER AND SPRINKLE IT ON.



Dandelions and other unsightly weeds needn't mar the beauty of any lawn this year. With End-o-Weed, improved 2,4-D weed killer, you can actually spray them away.

You merely mix End-o-Weed with water (8 ounces will treat 1600 sq. feet) and spray it on. Thus, an entire lawn can be weeded in less than an hour.

End-o-Weed destroys more than 100 different kinds of lawn weeds without harm to ordinary grass. Kills leaves, stems, and roots. Get End-o-Weed from the dealer who sells you Vigoro.

End plant and lawn pests, too!

End-o-Pest—All purpose dust—provides the pest protection every garden needs.

End-o-Pest ARC—Kills ants, roaches, chiggers and many other lawn pests.

ALL PLANTS NEED THE ESSENTIAL MINERALS IN F·T·E

For full, healthy growth *all* plants need trace elements, and soil treatment with FTE (Fritted Trace Elements) will assure you that *your* plants have an adequate supply. *Slow-soluble* FTE has been tried by thousands . . . on many plants, in many areas . . . with excellent results in remedying trace element deficiencies in soils.

ANNUALS grew larger, bloomed earlier, following the introduction of FTE into the soil. And only one treatment was needed as FTE stays in the root area and available to plants all season, because it's *slow-soluble.*

PERENNIALS suffering from trace element deficiencies also showed similar results. Flowers had better color and growth. Tree and shrub growth also improved — fuller, thicker foliage resulted.

VEGETABLE CROPS responded well in tests by home and truck gardeners alike. In many cases FTE treatment resulted in a better quality product and healthier plants, more resistant to weather and disease.

LAWNS grew thicker, faster, had better color following application of FTE. In establishing new lawns, or improving old ones, long-lasting FTE has produced better growth.

FOR ALL PLANTS, FTE can correct a definite trace element deficiency. It may improve *your* lawn and garden, since it contains the valuable trace elements *iron, manganese, copper, zinc, boron and molybdenum.* FTE is available in package form or already mixed into commercial fertilizers. Look for "FTE" on bags or labels. For further information, write Ferro Corporation, Cleveland 5, Ohio. In Canada, write Ferro Enamels (Canada) Ltd., Oakville, Ontario.

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GARDENERS' DIRECTORY

POWER MOWERS CONTINUED

LARK, 18 in.; ROCKET, 20 in. PARKHOUND, 21 in.; ROLLOWAY, 25 in. Gasoline powered rotary: 20 in. The Eclipse Lawn Mower Co., Prophetstown, Ill.

ECLIPSE. Gasoline mowers, reel, rotary, sickle bar. Eclipse Lawn Mower Co., Prophetstown, Ill.

EVERSHARP. Gasoline powered reel type: SUBURBAN, 20 in.; TOWN & COUNTRY, 21 in.; PLAYBOY, 18 in. Gasoline powered rotory type, COMET, 18 in., two models. Electric reel: PLAYBOY, 18 in. Electric rotary: COMET, 18 in. Midwest Mower Corp., 1006 Olive St., St. Louis, Mo.

EXCELLO. Gasoline powered reel type: 21 in., 24 in. Gasoline powered rotary: 18 in., 21 in. Electric rotary: 18 in. Heincke & Co., P.O. Box 296, Springfield, Ill.

FAIRBANKS, MORSE. Gasoline powered reel type: GRASS FINDER, 18 in. automatic. Gasoline powered rotary: 20 B BAR, 20 in. PATHFINDER, 20 in., 24 in. Electric rotary: 18 in. Fairbanks, Morse & Co., Chicago, Ill.

FALLS ROTO CLIPPER. Gasoline powered rotary: 18 in. and 21 in. Falls Prod., Inc., Genoa, Ill.

FARMCO. Gasoline powered rotary: 18 in., 20 in. Farm Products Co., Excelsior Springs, Mo.

FLO-MOW. Gasoline powered rotary type, 18, 20 and 24 in. cut. Flo-Mow Mfg. Co., 9001 Prospect, Dodson, Mo.

GARDENAID TRAC-MOWER. Gasoline powered reel type, 25 in. Eastern Tractor Mfg. Corp., 36 St. James St., Kingston, N. Y.

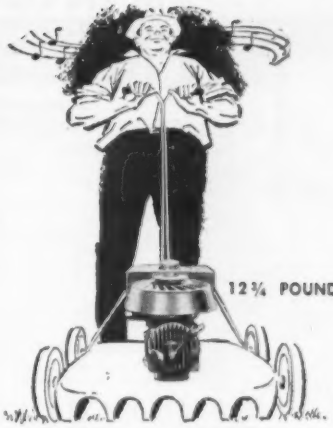
value, but there have been no tests in this area to my knowledge.

Crag Herbicide for destroying weeds in lawns is not as logical as using 2,4-D for the same purpose. The one exception is in new lawns in which the seedlings are at least six weeks old, but too young to tolerate 2,4-D. Here Crag serves a real purpose. It can be applied to the soil and will keep new weed seedlings from appearing for six weeks, as well as destroying all young weeds. This six-week respite from weeds is usually long enough to give the grasses a chance to get established, after which a second spraying will carry the lawn through the rest of the growing season. By the end of that time, 2,4-D can be used safely.

The use of liquid fertilizers for lawn feeding is an excellent way to apply plant food, assuming that the soil itself is reasonably good, so that the plants have a reservoir of nourishment between drinks.

One advantage of liquid feeding is that it eliminates plant food residue on the surface.

The big news in lawns for the Midwest, however, continues to be Merion bluegrass. The thrill of being able to establish a lawn with a species that can take it is really something!



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• 2 H.P. Briggs & Stratton engine • Cast aluminum shroud for safety • Rear discharge chute spreads clippings evenly.

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Sample bag, shipped anywhere in continental United States,

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GARDENERS' DIRECTORY

POWER MOWERS CONTINUED

GOODALL. Gasoline powered rotary type: 17 in., 18 in., 20 in., 21 in. Goodall Mfg. Corp., 401 St. Anthony Blvd., Minneapolis, Minn.

HANDY DANDY. Gasoline powered reel type: 19 and 21 in. models. Gasoline powered rotary: 20 in. Le Claire Mfg. Co., Le Claire, Iowa.

HOMKO. Gasoline powered reel type: 20 and 24 in. models. LAWN SCOUT, 18 in.; ROBOT, 20 in., remote controlled electric: Riding model, 30 in. Gasoline powered rotary: 16 in., 18 in., two models; 20 in., two models. Electric rotary, 16 in. Western Tool & Stamping Co., 2725 Second Ave., Des Moines, Iowa.

HUFFY. Gasoline powered rotary type: 18 in., two models; 20 in. Electric rotary: 16 in., and 18 in. The Huffman Mfg. Co., Dayton 1, Ohio.

HURRICANE. Gasoline powered rotary type: 18 in., two models: SENIOR, 20 in.; TRAVELER, 22 in. self propelled. National Metal Prod. Co., Inc., 2722 Cherry St., Kansas City, Mo.

JACKSON. Gasoline powered rotary: 18 in. Electric rotary: 16 and 18 in. Jackson Mfg. Co., Inc., 2303 West Fairview Ave., Montgomery, Ala.

JACOBSEN. Gasoline powered reel type: PACER, 18 in.; MANOR, 21 in.; LAWN KING, 26 in.; PARK 30, 30 in. Gasoline powered rotary: 18 in. model 20 in. model: LAWN QUEEN, 21 in.; ESTATE, 24 in. Electric rotary: 18 in. model. Jacobsen Mfg. Co., Racine, Wis.

JARI. Gasoline powered reel type. Several models available. Sickle bar can be attached. Jari Prod., Inc., 2938 Pillsbury Ave., Minneapolis, Minn.

LAWN BOY. Gasoline powered rotary type: 18 in., 21 in., 22 in. RPM Mfg. Co., Lamar, Mo.

LOCKE. Gasoline powered reel type: 25 in., 30 in. Locke Steel Chain Co., Bridgeport, Conn.

MODERN MOWER. Gasoline powered rotary type: 20 in., three models. Air-Electric Machine Co., Inc., Lohrville, Iowa.

MOTO MOWER. Gasoline powered mowers of various sizes. Moto Mower, Detroit, Mich.

MOWAMATIC and LEVITT-LE. Gasoline powered reel type: 18 in., 21 in. Gasoline powered rotary: WHIRLAMATIC and LEVITT-LE, 18 in. Electric rotary: WHIRLAMATIC and LEVITT-LE, 18 in. Mowamatic Corp., Port Washington, Wis.

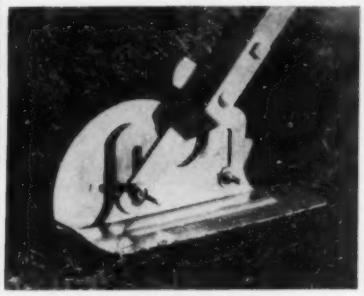
MOZ-ALL. Gasoline powered rotary: 17 in. and 20 in., self propelled. Wind-King Electric Mfg. Co., Merrill, Iowa.

O.K. BULLDOG. Gasoline powered rotary type: 21 in., self propelled. J. A. Orr Co., 10019 S. Western Ave., Chicago 43, Ill.

New Lawn Tools

[FROM PAGE 89] principle. GATES is putting out a new model for 1954, also with holes on one side only.

The pinnacle of all sprinklers, I imagine, is a built-in underground system. For years, custom jobs were available from the DAYTON IRRIGATION and the JOHN BROOKS concerns. But now the RAINRITE company has brought underground systems down to the home-gardener size. This unit, which comes in a kit with materials for covering a 1,500 square foot area, uses plastic pipe which



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• *Easy-grip wood handle*

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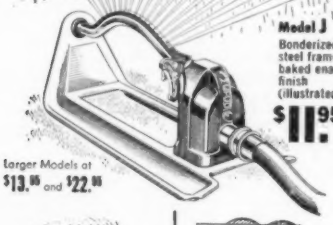
METCO Wave SPRINKLERS

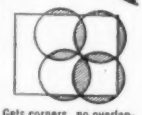
"NEXT BEST THING TO RAIN"



Model J
Bonderized steel frame, baked enamel finish (illustrated)
$11.95

Larger Models at $13.95 and $22.95

Waters large rectangles . . . fewer moves



Gets corners, no overlapping or wasteful circles

Can be moved with water on

Finger adjustment controls spray area

Better for your lawn—Easier for you

The slow back-and-forth motion of this new and better sprinkler gives the water time to soak in—no puddles or runoff. This deeper penetration means stronger roots and better lawns. Ruggedly built of finest materials to last a lifetime.

Metallizing Engineering Co., Inc., Long Island City 1, N. Y.

AT HARDWARE and GARDEN STORES EVERYWHERE

GARDENERS' DIRECTORY

POWER MOWERS CONTINUED

PEARCE "AIR LIFT". Gasoline powered rotary type: various models ranging from 20 to 31 in. Pearce Corp., 144 E. Highland Ave., Milwaukee, Wis.

PINCOR. Gasoline powered reel type: 18, 20, 21 and 22 in. models. Gasoline powered rotary: 18 and 20 in. models. Electric rotary, 18 in. Pioneer Gen-E-Motor Corp., 5841 West Dickens Ave., Chicago, Ill.

PROPULSION. Gasoline powered reel type: 18 in., two models: 20 in. MOW-MASTER. Gasoline powered rotary, 18 in., two models, 20 in. and 21 in. Electric rotary, 18 in. Propulsion Engine Corp., 7th St. and Sunshine Rd., Kansas City 15, Kan.

PENNSYLVANIA. Gasoline powered reel type: EXETER, 18 in.; DE LUXE, 21 in. American Chain & Cable Co., Inc., Pennsylvania Lawn Mower Div., Stevens Lane, Exeter, Pa.

RIDE-A-MOWER. Gasoline powered reel type: 24 in. and 30 in. Gasoline powered rotary: 20 in. and 24 in. All riding type. The Ride-A-Mower Co., 305 Knowlton St., Bridgeport 8, Conn.

REO. Gasoline powered reel types: various models in different widths. Gasoline powered rotary type: various sizes. Reo Motors, Inc., Lansing, Mich.

ROBERTON. Gasoline powered reel type: DELUXE: 20 in. Gasoline powered rotary type: 17 in., 19 in. and 21 in. models. Electric rotary type: 16 and 18 in. models. Roberton Mfg. Co., Chicago 14, Ill.

ROOT. Gasoline powered rotary: ZIP, 18 in.; WHIZ, 20 in. Root Mfg. Co., Inc., Baxter Springs, Kan.

ROTO-CUTTER. Gasoline powered rotary type: 16, 20 and 24 in. widths. 12 in. rotary trimmer also available. Roto Hoe & Sprayer Co., Dept. 1, Newbury, Ohio.

SAVAGE. Gasoline powered reel type: POWER CHIEF, 18 in.; YARD CHIEF, 21 in. Gasoline powered rotary: ROTOR CHIEF, 20 in. Electric rotary, DYNA CHIEF 18 in. Savage Arms Corp., Lawn Mower Div., Chicopee Falls, Mass.

SENSATION. Gasoline powered rotary type: COMET, 16 in.; MOW-BLO, 18 in.; MARATHON, 22 in.; SURREY, 24 and 30 in. Electric rotary: LAWN BARBER, 16 in.; DYNA-MO, 16 in.; ELECTRA-BLO, 18 in. Sensation Mower, Inc., 7577 Burlington St., Ralston, Nebr.

SNAPPIN' TURTLE. Gasoline powered rotary type: 19 in., 20 in., two models, 25 in. and 36 in., riding model. Power Implement Div., Southern Saw Works, Inc., Box 161, Station A. S. W., Atlanta, Ga.

SPEISER. Gasoline powered rotary, 20 in. cut. Speiser Eng. Co., 1601 West Main St., Stroudsburg, Pa.

SPINAWAY. Gasoline powered rotary type. Rotary suction action. 20 in., two models; 26 in.; 31 in. Hal-Gan Prod., Inc., Blue Mound Rd., Elm Grove, Wis.

is long-lasting and easy to install—in fact, they say you can put the system together in two hours. The sprinkler heads they provide are self-cleaning.

Another new item I saw at the Garden Supply Show was the FOLIATOR, made by Monsanto Chemical Co. This is an attachment which allows you to feed your lawn while you water. It can be attached either at the faucet or between lengths of hose. A small plastic tube is inserted in a pail of plant food solution which in turn is sucked into the hose water and out through the sprinkler. The

MASCOT - 4-WHEEL TRACTOR

AMERICA'S LOWEST PRICED TRACTOR

POWERFUL • RUGGED • DEPENDABLE •

ONLY $225

Powerful 3 H.P. Engine • Heavy Duty Traction Tires • Forward & Reverse Speeds • Low, Low Operating Cost • Ideal For Farm or Estate

NATIONAL'S MASCOT is powered by heavy duty Clinton 3 H.P. 4 Cycle air cooled engine. This Tractor is small in size but great in power and efficiency. MASCOT will tackle any job on the farm. All attachments available including Snow Plow, Sickle Mower, Gang Mowers, Trailer, Turning Plow, Disc Harrow, etc. Send for Complete Information

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GARDEN CULTIVATOR

WITH
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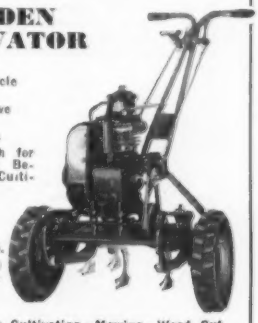
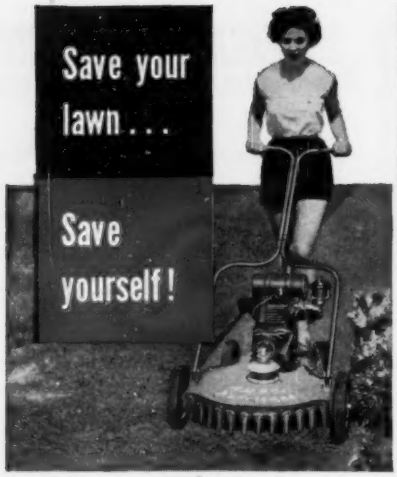
- Positive Drive Clutch
- Rubber Tires
- 25" Width for Straddle or Between Row Cultivation



SNAP-ON — SNAP OFF — ATTACHMENTS.
Attachments snap on and off in less than a minute.

Attachments for Cultivating—Mowing—Weed Cutting—Snow Plowing . . . Model W-Whirl Type Power Lawn Mower with Leaf Mulcher.

LE CLAIRE MANUFACTURING CO.
Le Claire, Dept. FG, Iowa
"Manufacturers of Handy Dandy Lawn Mower Conversion Kits"



get a

Hurricane

ROTARY POWER MOWER

It takes time, money and work to establish a good, thick stand of healthy grass. Don't risk ruining your hard-earned lawn by ragged, improper mowing! Get a Hurricane Rotary Power Mower and see how much faster, how much easier it is to groom your grass into the finest looking lawn in the neighborhood.

Choose from these 4 great models!

HURRICANE SENIOR—(pictured above) Big (20" swath), powerful (2 h.p. engine), yet so easy to handle. Lightweight cast aluminum chassis and specially designed handle for effortless turning and maximum maneuverability. Automatic governor control keeps blade speed constant. Special safety guard converts to grass throwout when machine is cutting—distributes fine clippings, giving valuable mulch and eliminating windrows.

HURRICANE JUNIOR

—Scaled down copy of Senior. 18" swath for city lawns. 2 h.p. governor-controlled engine, indestructible cast aluminum chassis. Like all Hurricanes, has adjustable cutting height (½" to 3½"). Four big, equal-sized wheels follow the contour of the land keeping cutting level constant and preventing grass tufts and ground gouges.

HURRICANE GLIDER

—18" economy model. 2 h.p. engine, pressed steel chassis embossed for superstrength. Never before has such a powerful, well-built mower sold at such a startling low price! Can handle tough mowing jobs with amazing ease. Designed for years and years of rugged service. Economical to run and maintain.

HURRICANE TRAVELER

—Self-propelled! 3 h.p. Clinton gasoline engine, patented Hurc-O-Matic® automatic transmission. Climbs steep slopes, turns 90° angles with sulky attached. Mows ½ acre of lawn per hour! Dual, tractor-tired drive wheels for greater gripping power. Single lever controls both speed and motion. Easy-riding sulky optional. Hurricane Traveler costs less than a good TV set!

Hurricane is handled by leading dealers. See all four models or write for fact-packed picture folder.

NATIONAL METAL PRODUCTS COMPANY, INC.

Dept. FG-42, 2722 Cherry Street, Kansas City 8, Missouri

GARDENERS' DIRECTORY

POWER MOWERS CONTINUED

RED CAP. Gasoline powered reel type: TOWN AND COUNTRY, 20 in.; CARETAKER, 24 in. Gasoline powered rotary type: 18 and 20 in. Starbrand Corp., Indianapolis 18, Ind.

TORO. Gasoline powered reel type: SPORTLAWN, 18 in.; POWER GREENSMOWER, 21 in.; SPORTLAWN, 21 in.; STARLAWN, 27 in. PARK SPECIAL, 30 in.; SPARTAN FAIRWAY, 30 in.; SPARTAN ROUGHMASTER, 30 in. Gasoline powered rotary; WHIRLWIND, 18 in., 20 in., 21 in. and 24 in. models. Toro Mfg. Co., Minneapolis 6, Minn.

TRIPLE-M. Rotary mower and mulcher, 21-in., attachment to tractor. The Motch & Merryweather Machinery Co., Gates Mills, Ohio.

VOLLRATH. Gasoline powered rotary: various models in 16, 17, 19 and 21 in. cuts. Electric rotary: 17 in. The Vollrath Co., Sheboygan, Wis.

WHIRL-CUT. Gasoline powered rotary type: EAGLE, 17 in.; Electric rotary: WARRIOR, 16 in: Paul Hainke Mower Corp., Hutchinson, Kan.

WORCESTER. Gasoline powered reel type: POWER MASTER, 18 in.; SHEAR MASTER, 21 in. Gasoline powered rotary type: ROTOR MASTER, 20 in. Electric rotary: DYNA MASTER, 18 in. Worcester Lawn Mower Co., Div. of Savage Arms Corp., Chicopee Falls, Mass.

HAND MOWERS

BLAIR. PILGRIM, 16 and 18 in. cut. HOMESTEAD, 16 and 18 in. cut. YANKEE, 14 in. BLAZER, 16 in. Blair Mfg. Co., Springfield 7, Mass.

BUCKEYE. REGAL, FEATHERLITE, DELUXE, all 16 in. AIR-LITE, 18 in. Mast-Foos Mfg. Co., 68 W. Columbia St., Springfield, Ohio.

CLEMSON. Models with 16, 17 and 18 in. cuts. Clemson Bros., Inc., Middletown, N. Y.

F & N. Various Models. Also trimmer and edger. Power mowers. F & N Lawn Mower Co., Richmond, Indiana.

GRANITE STATE. Various models in 12, 14 and 16 in. widths. Granite State Mowing Machine Co., Hinsdale, N. H.

DAVIS. Various models, 16 in. cut. G. W. Davis Corp., Richmond, Ind.

ECLIPSE. Four models 16 in. VOGUE, 18 in. The Eclipse Lawn Mower Co., Prophetstown, Ill.

EVERSHARP. Three models, 16 in. cut. Midwest Mower Corp., 1006 Olive St., St. Louis, Mo.

MONTAMOWER. 16 in., cuts by revolving discs. MONTAMOWER Dist. Co., Keeler Bldg., Grand Rapids 2, Mich.

PENNSYLVANIA. GREAT AMERICAN, 15, 17 and 19 in. GREAT AMERICAN HI-CUT, 17 and 19 in. METEOR, 16 and 19 in. American Chain & Cable Co., Inc., Pennsylvania Lawn Mower Div., Stevens Lane, Exeter, Pa.

PINCOR. Various models, 16 in. Pioneer Gen-E Motor Corp., 5841 W. Dickens, Chicago 39, Ill.

SAVAGE. PAWNEE, 14 and 16 in. ONEDIA, 16 in. Lawn CHIEF, 16 and 18 in. SUPERCHIEF, 16 and 18 in. Savage Arms Corp., Lawn Mower Div., Chicopee Falls, Mass.

WORCESTER. WINDSOR, 14 and 16 in. WILSHIRE, 16 in. Worcester Lawn Mower Co., Div. of Savage Arms, Corp., Chicopee Falls, Mass.

GASOLINE ENGINES

BRIGGS & STRATTON. 4-cycle engines ranging from 1 to 8.40 HP. Vertical and horizontal types for both types mowers. Briggs & Stratton Corp., Milwaukee 1, Wis.

CONTINENTAL. 4-cycle, air-cooled engines from 2 H.P. up. Continental Motors Corp., 12800 Kercheval, Detroit 15, Mich.

CLINTON. 4-cycle engines in various sizes for mowers and tractors. Clinton Machine Co., Clinton, Mich.

KOHLER. 4-cycle engines, ranging from 3.6 to 26.8 Hp. Larger models are 2-cylinder. Kohler Co., Kohler, Wis.

LAUSON. 4-cycle engines ranging from 1½ to 6 HP. Both vertical and horizontal drive shafts. The Lauson Co., New Holstein, Wis.

POWER PRODUCTS. 2-cycle from 1 to 2 HP. Vertical and horizontal drive. Extreme light weight. Power Products Corp., Grafton Wis.

WEST BEND. 2-cycle engines in various sizes. West Bend Aluminum Co., West Bend, Wisconsin.

OTHER LAWN TOOLS

CURTICE. Hose nozzle. Curtice Mfg. Co., Denver, Col.

HOSE ON. Connection for hose and faucet for easy connecting. Hose On Prod., P.O. Box 1141, Burbank, Calif.

LAWNE MULCHER. Adjustable to hand mower. Grass is recut into superfine clippings. Lawn Mulcher Co., Inc., 75 E. Waker Dr., Chicago 1, Ill.

LINDSAY HOSE REELS. Several models, fastening to wall and free standing. MAGIC RING GARDEN HOSE COUPLING: connection to eliminate screwing. Lindsay Mfg. Co., P.O. Box 968, Lindsay, Calif.

MAXIMUM SILENCER. Attaches to power mower to reduce engine noise. Maxim Silencer Co., Hartford, Conn.

NO-SEE GRASS BARRIER. Corrugated, galvanized steel strips inserted along borders to prevent lawn from spreading. Keelor Steel, Inc., 909 Ninth St. S.E., Minneapolis 14, Minn.

REDI-HOSE REEL. Faucet attached type, 100 ft. capacity. Craco Corp., 1703 Alamo Dr., Glendale 7, Calif.

SALEM REAL-REEL. Free standing hose reel. The Salem Tool Co., Salem, Ohio.

WATER TENDER. Measures pre-selected amount of water by automatic shut-off. Luthe Corp., 206 W. Washington St., Milwaukee, Wis.

Foliator is made of plastic and can be used with any garden hose.

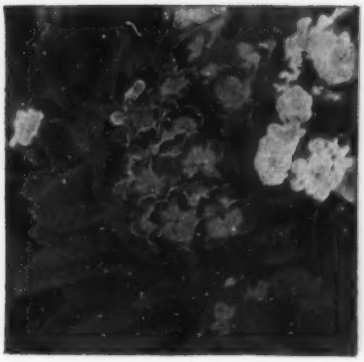
In the greenhouse, we never watered without a spreader or aerator attached to the hose. The reason for this was that we wanted all the water possible but at reduced pressure to prevent washing the soil away from the roots. The MEL-O-ROD does the same thing. This long-handled, nozzle-like implement is attached to the hose and as the water passes through it is mixed with air.

Meter the water going on your lawn. Sounds crazy, but its possible with a WATER-TENDER. This is a little different from regular water timers in that it meters the water volume and times the length of watering as well. All you do is set the dial, push down on the button and then go fishing.

Owning a good garden tool will give you just as much joy as being the possessor of a prize variety plant. You should select both with the same critical eye. And when you're working around the garden, always remember to "let the TOOL do the work."

—WILLIAM L. MEACHEM

LOBELIA cardinalis (Cardinal Flower)



PRIMULA veris (Cowslip)

ANCHUSA myosotidiflora

CYPRIPEDIUM pubescens (Yellow Lady Slipper)

LIATRIS scariosa

Artistic Colors!

FOR YOUR GARDEN . . . . . PLANT NOW

COLLECTION I

SPRING FLOWERING—Height 6 to 10 inches

Asarum Canadensis—(Wild Ginger)
Dicentra Cucullaria—(Dutchman's Breeches)
Hepatica Triloba—(Liverwort)
Sanguinaria—Canadensis—(Bloodroot)
Viola Blanda—(Sweet White Violet)
Viola Pubescens (Downy Yellow Violet)

1 each or 6 plants for $1.00
5 each or 30 plants for $4.50

COLLECTION II

SPRING FLOWERING—Height 16 to 30 Inches

Aquilegia Canadensis—(Wild Columbine)
Geranium Maculatum—(Cranesbill)
Mertensia Virginica—(Blue-bells)
Phlox Divaricata—(Sweet William)
Polyginatum Biflorum—(Solomon's Seal)
Uvularia Grandiflora—(Bellwort)

1 each or 6 plants for $1.00
5 each or 30 plants for $4.50

COLLECTION III

SPRING FLOWERING—Height 6 to 12 inches

Trillium Cerneum—(Nodding Trillium)
Trillium Erectum—(Purple Trillium)
Trillium Grandiflorum—(Large White Trillium)
Trillium Recurvatum—(Prairie Trillium)
Trillium Undulatum—(Painted Trillium)

1 each or 5 plants for $1.50
5 each or 25 plants for $7.00

COLLECTION IV

SPRING FLOWERING—Height 10 to 16 inches

Cypripedium Acaule—(Pink Lady Slipper)
Cypripedium Pubescens—(Yellow Lady Slipper)
Cypripedium Spectabile—(Showy Lady Slipper)

1 each or 3 plants for $1.50
5 each or 15 plants for $7.00

COLLECTION V

SUMMER FLOWERING—Height 30 to 48 inches

Liatris pychnostaycha—Kansas Gay-Feather
Liatris scariosa—Blazing Star
Lobelia cardinalis—Cardinal Flower
Lobelia syphilitica—Great Blue Lobelia

1 each or any 4 for $1.50
5 each or any 20 for $7.00

COLLECTION VI

SPRING FLOWERING—Height 8 to 12 inches

Anchusa myosotidiflora—Blue Bonnet
Armeria laucheana—Sea Pinks
Iberis sempervirens—White Candytuft
Myosotis palustris—Forget-me-nots
Primula Veris—Hardy Mixed Primroses

1 each or any 5 for $2.00
5 each or any 25 for $9.00

COLLECTION VII
HARDY NATIVE LILIES

SUMMER FLOWERING—Height 16 to 30 inches

Lilium canadense—Meadow Lily
Lilium grayi—Mountain Lily
Lilium philadelphicum—Wood Lily
Lilium superbum—Turks-Cap Lily

1 each or any 4 for $1.50
5 each or any 20 for $7.00

COLLECTION VIII
HARDY FERNS

Adiantum Pedatum—(Maidenhair Fern) 14 inch
Athyrium felixfemina—(Lady Fern) 24 inch
Dryopteris Spinulosum—(Toothed Wood Fern) 18 inch
Osmunda Cinnamonea—(Cinnamon Fern) 36 inch
Osmunda Regalis—(Royal Fern) 30 inch
Polystichum Acrostichoides—(Christmas Fern) 16 inch
Pteretis Nodulosa—(Ostrich Fern) 36 inch
Woodwardia Virginiana—(Chain Fern) 20 inch

1 each or 8 plants for $2.50
5 each or 40 plants for $12.00

IX
FLOWER GROWER SPECIAL

One each of every collection on this page (41 items in all) Regular value $12.50.

Special Price
$11.50

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FREE! Be sure to get your own copy of our color catalog FREE. It features the finest in Hardy Wildflowers, Ferns, Perennials, and Gladiolus.

Gentlemen: Please send the following:

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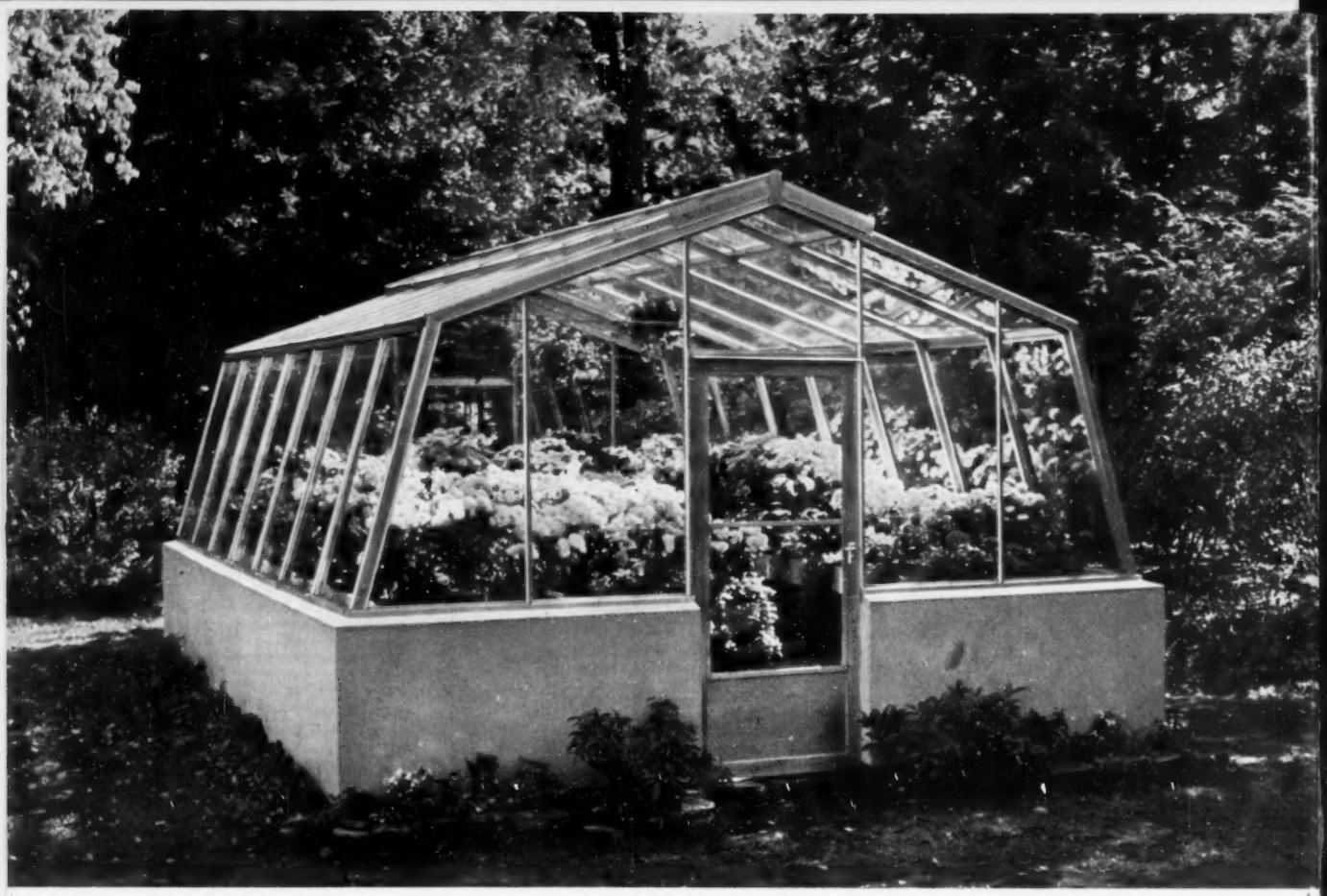
- ☐ II 6 plants.....$1.00
- ☐ III 5 plants.....$1.50
- ☐ IV 3 plants.....$1.50
- ☐ I 30 plants.....$4.50
- ☐ II 30 plants.....$4.50
- ☐ III 25 plants.....$7.00
- ☐ IV 15 plants.....$7.00
- ☐ V 4 plants.....$1.50
- ☐ VI 5 plants.....$2.00
- ☐ VII 4 plants.....$1.50
- ☐ VIII 8 plants.....$2.50
- ☐ V 20 plants.....$7.00
- ☐ VI 25 plants.....$9.00
- ☐ VII 20 plants.....$7.00
- ☐ VIII 40 plants....$12.00
- ☐ IX FLOWER GROWER SPECIAL 41 plants $11.50
- ☐ X FREE color catalog of Hardy Wildflowers, Ferns, Perrenials, Gladiolus

NAME _____

ADDRESS _____



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BEAUTIFUL AND BRIGHT for a lifetime of carefree gardening . . . A pride to own . . . Simple to operate. Never needs paint—it's maintenance-free—no parts to give out or wear out. Made of aluminum alloyed for greatest strength and resistance to corrosion. The perfect *"forever metal"* for greenhouse construction. Designed with the same meticulous care as our florist, institutional, and estate greenhouses.

And like all our home greenhouses, you can be sure it is functionally right. There is more sunlight with 30″ wide glass. Carefree automatic heat and ventilation to suit any crop or climate. Tighter construction with rubber cushioned glass, sealed outside with aluminum barcaps. Prices start at **$400** for a big 14 by 8½ ft. greenhouse ready to join to your home. Send for Free Catalog No. **26-A.**.

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Greenhouses of Every Type Since 1856

African Violets

LIVING COLOR FOR YOUR ROOMS!

African Violet culture has won such enduring popularity because these lovely plants—with their exquisite blooms and wide variety of beautiful leaf shapes and textures—are so easy to grow that beginners have as many flowers as do advanced collectors.

PLANTS LIKE THIS $1.00 EACH

SPECIAL OFFER

To prove to you that we know how to mail African Violets to you in PERFECT condition, we will send postpaid and guaranteed—your choice of a plant in bloom and labeled true to name—**Pink, White, Light Blue, Dark Purple, Lavender at $1.00 each (or all 5 for $4.95)**

(Growing instructions sent free)

FREE African Violet CATALOG

Tells how to grow African Violets! Many varieties pictured in color. You'll want to start this delightful hobby today so write to

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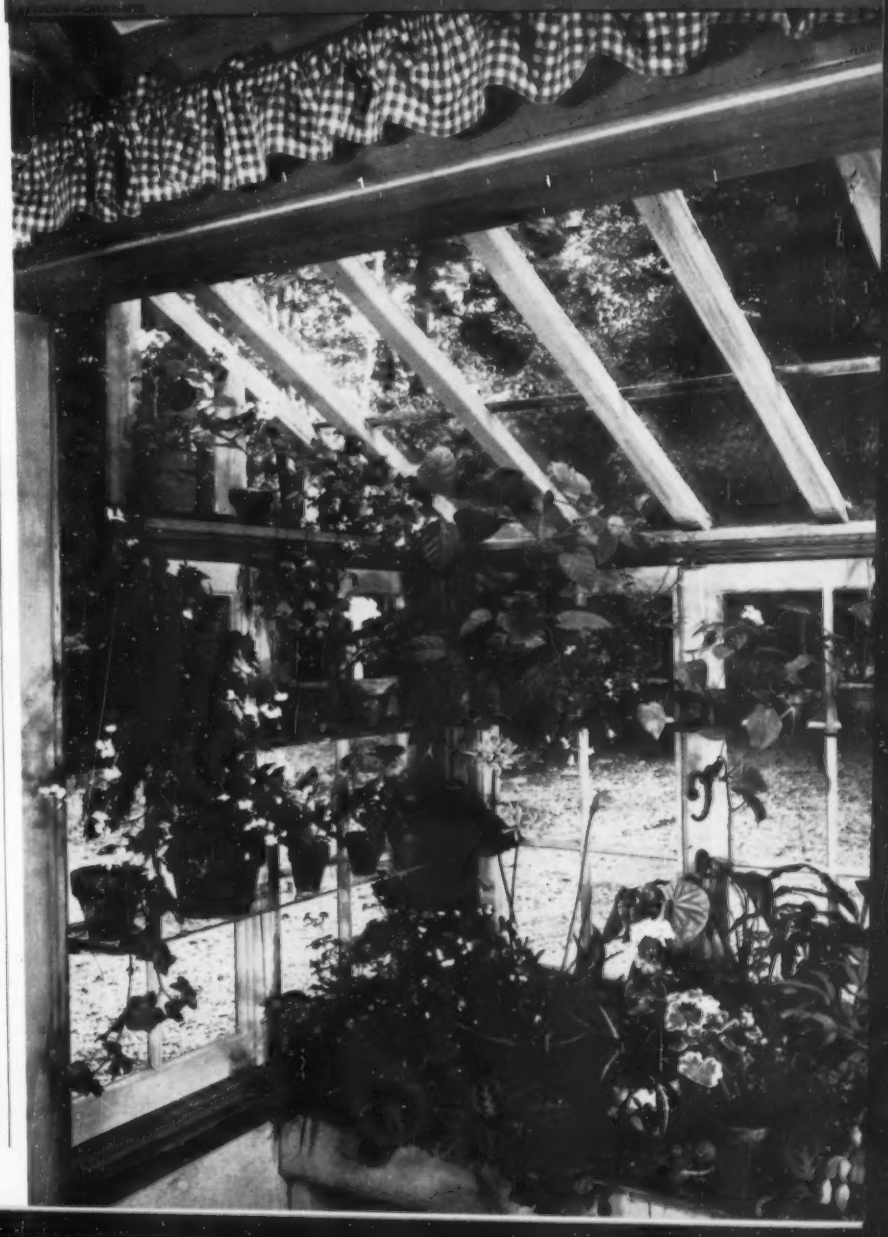


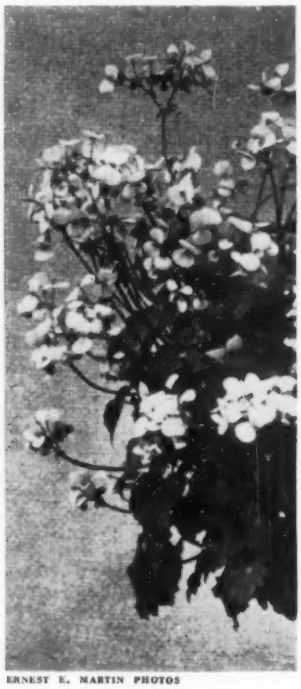
Miniature Begonias

by JOY LOGEE MARTIN

Haven't you often heard it said, "I like begonias but I just haven't the room to grow them"? Many begonias do grow as large as bushel baskets, but there are others of miniature habit which are ideal for the begonia enthusiast with limited space. You'll find them ideal indoor subjects—easy to grow and netting maximum beauty and color per square inch of window space.

In my collection of miniature begonias, one of the oldest and most delightful is BEGONIA HYDROCOTYLIFOLIA. It is an adorable dwarf type of the pond-lily begonia with round thick leaves the size of an English penny—hence the common name pennywort begonia. The leaves are glossy green above with dark markings along the veins on the under side and they hug the pot, as do the thick creeping stems of this rhizomatous plant. In midwinter, bright rose pink flowers rise just above the foliage. This fine begonia enjoys shade and will thrive without any direct sun. It is easily propagated by division of the thick stems.

Equally charming is BEGONIA BOWERI, a true miniature, discovered by Thomas MacDougall in 1948. The largest leaves measure only an inch across, and the plant attains but 8 inches in height. Growth is compact and symmetrical, and the bright green leaves boast chocolate markings and bright red hairs fringing the edges. These hairs are the reason for its nickname—eyelash begonia. From midwinter to spring, blush pink flowers completely cover the plant. Begonia boweri enjoys partial sun and in fall and winter, wants ample water. It can easily be propagated from the creeping rhizomatous stems, which root in a surprisingly short time. Its creeping root stem also makes it adaptable for use in hanging pots. This species can also be propagated from mature leaves by the same method as that used for African



ERNEST E. MARTIN PHOTOS

Three petite charmers: *top*, Lucy Closson, a dwarf rex with silvery wine foliage; *right*, adorable B. hydrocotylifolia, with glossy green "English-penny" leaves and pink winter blooms; *below*, Begonia boweri, called the eyelash begonia because of the red hairs fringing its chocolate-spattered leaves. The latter plant is pictured in bloom at right.

You can grow these delightful small types in limited space

violets. In one year, a fine specimen can be grown from a leaf to a size suitable for a 4-inch pot.

BEGONIA ARIDICAULIS, which grows no more than 6 inches high, is a new and extremely interesting plant. The shiny green leaves, 2½ inches long and half as wide, are similar in shape to the nasturtium leaf, and are veined in silver. The name *aridicaulis* means *dried stem*, and the stems are indeed dried-up looking. In fact, they look so shriveled you wonder how the plant can develop into such a beautiful begonia. In early spring, greenish white flowers appear, both the male and [SEE NEXT PAGE]

Another intriguing trio: *left*, the all-double pink-blossomed hybrid Winkie; *top*, the silver-green mapleleaf begonia Richard Robinson; *below*, the outstanding, well-formed new pennywort hybrid Spaulding.

What could brighten a winter room more delightfully than this lilliputian "chandelier" lighted with blossoms of softest pink! The easy-to-grow subject—B. boweri.

Ballet's snow-white blossoms will prettily mock the flying snow if you but give it the chance on a winter window sill. Perfect foil for the fully double flowers is the thick, rich bronze foliage.

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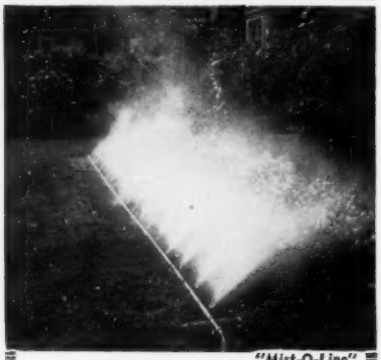

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the female having but only two petals.

The native habitat of this begonia is Mexico, where it grows at an altitude of 5,000 feet along the banks of streams. It was in such a spot that Thomas MacDougall found this little wildling in 1950. The plant requires partial shade and ample water, and is easily grown from seed or cuttings.

In any collection of small begonias, the new dwarf doubles of the old fashioned wax begonia, B. SEMPERFLORENS, deserve a prominent place. Among my finest low-growing hybrids are a lovely all-double pink named WINKIE

and the best all-double white, BALLET. Both have lovely, rich bronze foliage and grow only 8 inches high. Fine and undemanding plants for the sunny window, they flower throughout the winter.

Hybridists have done much with the large elephant ear or rex begonias. Time was when these husky hybrids were the pride of many house plant growers, one specimen often filling a bay window. Today finds many miniatures newly available, which makes it possible for even the smallest cottage window to accommodate one of these gay antiques.

BABY RAINBOW, introduced by Leslie Woodriff of Oregon, is one of the most colorful of all. The 5-inch-long leaves are suffused with red, rose and violet and edged in green, while the very center is bright silver. Slow-growing, Baby Rainbow like all rex begonias, likes shade and ample water in summer and fall, the growing season. But care must be taken not to overwater in winter, when the plant rests.

LUCY CLOSSON, one of the oldest and smallest of the rex type, was introduced in 1886 and is still a great favorite. The leaves, a dark wine with a lovely silvery lustre, are no more than 4 inches long and are borne on 5-inch stems. The largest plants, several years old, fill only a 4-inch pot.

A very beautiful rex is BEGONIA GRIFFITHI, a species from Assam, India. The small, olive green leaves have a zone of gray inside a purple margin, while the underside is solid red. The entire leaf is covered with such fine, dense hairs it feels like velvet. The large flowers are flesh pink. Although not the easiest begonia to grow, it will thrive in an even temperature of 70° away from drafts. It retains its best color when grown in

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complete shade, as do most rex begonias.

Rex begonias can readily be propagated from wedges cut from mature leaves. Simply clip off a leaf taking about ½ inch of leaf stalk, and then cut out several wedge-shaped pieces by running a knife along the veins of the leaf towards the center. Be sure to include a piece of the center or eye with each wedge. Bury the wedges ½ inch deep in sand, water well and furnish shade and heat until growth begins in about four weeks. You'll notice that as root action starts, the top of the wedge will turn brown and wither. When the plantlets have developed three leaves, pot them in very fibrous soil in as small pots as possible.

A very old and dwarf species from Brazil is BEGONIA SCMIDTIANA, much loved the country over for its easy culture and compact growth. The green leaves are red beneath and hairy. A constant bloomer, it bears pink-tinged white flowers. Sun or part shade suits this subject.

Among the mapleleaf begonias is a jewel of a plant, RICHARD ROBINSON. The deeply cut leaves are light green and beautifully marked with silver. Very compact and slow-growing, the plant makes its best growth in summer and fall, resting in winter. Heat, an even temperature and part sun are the success factors.

An outstanding hybrid of Begonia hydrocotylifolia and B. boweri is SPAULDING, recently introduced in California by Mrs. Louise Schwerdtfeger. Its low-growing leaves are similar to those of its first parent but more distinctly marked, while the short erect hairs at the leaf margins are inherited from B. boweri. Pale pink flowers appear in late winter. This plant is so perfect in growth and of such vigor that it promises to be one of the most outstanding introductions of its class.

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• Krilium soil conditioner is now available in a new 2-ounce, sealed foil package. This new packet, which was created for the handier use of Krilium in preparing potting and transplanting soil, should prove quite helpful in glad planting this spring. Two ounces will treat sufficient soil for about 36 corms or 34 4-inch pots—or a rose bush or shrub or similar size.

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DRAWINGS FROM HOW TO GROW RARE GREENHOUSE PLANTS BY ERNEST CHABOT

Solanum jasminoides is a delight in the home greenhouse since it blooms continuously and is easily controlled in size.

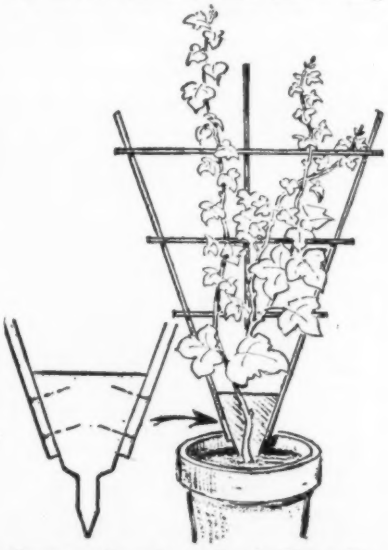
Hoya cornosa grows in 6-inch pots, grows 6 to 8 feet, produces fragrant clusters of flowers in the late spring and summer.

Home Greenhouse

by ERNEST CHABOT

MOST GARDENERS with small home greenhouses are very wary of growing plants described as "climbers or twiners." They visualize the entire greenhouse being taken over and shaded by thick, lush growth, that becomes covered with large colonies of mealy bug, red spider and white fly. At least that is the way it first appeared to me but after trying a selected group I soon discovered what I had been missing. The plants were not difficult to keep within bounds, insects were not a problem and the climbers added a pleasing touch to the greenhouse throughout the year.

Most climbers can easily be confined to ten-inch and smaller pots or tubs. Some will even start flowering when quite young in 4- or 5-inch pots. I have a beautiful star jasmine (Trachelospermum jasminoides) that has done beautifully in a 4-inch pot for the past three years. It flowers from early spring to fall in clusters of fragrant white stars at practically every joint. If the wiry growth reaches out too far, it can be just snipped off, yet the plant never seems to mind and there is little or no loss of bloom. Like all but two of my climbers, this plant is grown on a light fan-shaped trellis for, of course, some neat form of support is essential to all the climbers and twiners. The trellises are homemade of light scrap wood; strips about ½ by ½ inch are used in lengths of 3 or 4 feet depending upon the character of the plant. They are stained dark green with old paint, thinned down with gasoline. The lower end is formed into a long



Scrap wood can be used to build a trellis for climbing plants. Strips are fastened to a pointed base inserted in the soil.

pointed triangle that the soil will support. If you don't want to bother making your own trellises, garden suppliers carry some excellent ones in several styles.

Only two climbers are permitted to reach up into the rafters in my greenhouse. One is a Hoya carnosa; the other is Plumbago capensis. Both are easily controlled and are doing well in 6-inch pots. The Hoya reaches 6 to 8 feet with coarse fleshy leaves. The flower clusters are fragrant and waxy in white, tinted pink. They appear in late spring or summer. The plumbago sets on a shelf and is especially desirable for its azure blue clusters of flowers that follow one another on the tip of each branch from spring to late fall.

Jasmine flowers in our greenhouse from spring to very late fall. It is tops for delicate fragrance. This is a cool greenhouse plant, however, and since I am now running my greenhouse at 58° to 60°, the flowers drop too soon, but even though short-lived they are well worth having.

Solanum jasminoides is always a joy because it is continuously in flower. Blooms are in clusters of 12 or more delicate white stars with yellow centers. It is one of those plants that starts flowering while very small and although it is a vigorous grower, it can be easily controlled within 3 or 4 feet.

Clerodendron thomsoniae with white flowers and red centers is a must for every warm greenhouse. It regularly blooms in the summer but can be flowered by early March if kept on the dry side from fall to mid-winter. It doesn't pay to continue growing old plants for too many years. They become hard and difficult to control. It is best to start new ones from cuttings of half-ripened wood. The foliage as well as the flowers of this plant are beautiful when well grown.

With modern insecticides and fumigants the greenhouse gardener need have no fear of the worst of pests. If your greenhouse is free-standing, there are the easy-to-use Plantfume 103 smoke generators containing Dithio and the Fulex Parathion Fumigators. *Be sure to follow the manufacturer's instructions exactly for safety.* If the greenhouse is attached to your home, there is Malathon 25% wettable powder spray. With this latter you can easily and safely get any insects that may come your way.

April Planting Notes

ASTILBE JAPONICA — Divide root clumps at the end of this month and repot for next year's crop.

BUDDLEIA—Cuttings should be taken now for blooms next winter.

CALADIUM—Clean tubers and start in sand or sphagnum moss. Do not overwater or they will rot.

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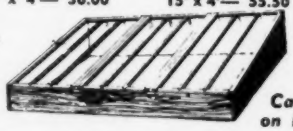

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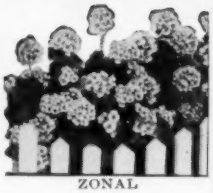
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in March should be ready to bench now.

CHRYSANTHEMUMS—It's none too soon to start the early varieties for flowers during early October. Do not leave in propagating bed more than 21 days or growth will become stunted and hard.

FELICIA AMELLOIDES—Take cuttings now to have those beautiful blue flowers to cut next winter.

FUCHSIAS—Take cuttings now and set in 3-inch or 4-inch pots.

STEPHANOTIS—Start new plants from cuttings of well ripened wood.

This is also a good season to root cuttings of many shrubby and herbaceous pot plants that give so much pleasure in the greenhouse. They are plants that can be grown year after year, but for best results they should be replaced every three or four years with new plants, for old hard growth is never so floriferous. Included are: allamanda, acalypha, yellow flax (reinwardtia), bougainvillea, ixora, linaria, milkwort (polygala), stevia and many others.

BEDDING PLANTS—A wide variety should be sown this month including: ageratum, alyssum, lobelia, lupine, marigold, nasturtium, nemesia, petunias, salpiglossis, snapdragons, torenia, and zinnias.◈

Questions and Answers on Soil

Q. *Is there anything to the great amount of publicity on the value of vitamin B_1 for plants?*

A. Unless the soil is nearly all sand, vitamin B_1 is rarely lacking. The average garden soil contains more than enough B_1 for plants; hence this vitamin does not have to be added.

Q. *Can I use high analysis fertilizers for benched and potted plants in my greenhouse?*

A. Yes, but use them carefully, that is, not too much, or too high a concentration. Do not guess at the required amount. Only about ¾ of a pound of a 12-26-12, 13-26-13 or 15-30-15 is needed for each 100 square feet of bench area. To ensure proper coverage, it is best to dissolve the chemicals in water and apply the diluted solution. Dissolve 2 to 3 pounds in 100 gallons of water and use this for 400 square feet of benched plants.

For potted plants, this same solution should be applied just as if you were giving the plants a moderate watering.

Q. *Can plants be grown in straight sand?*

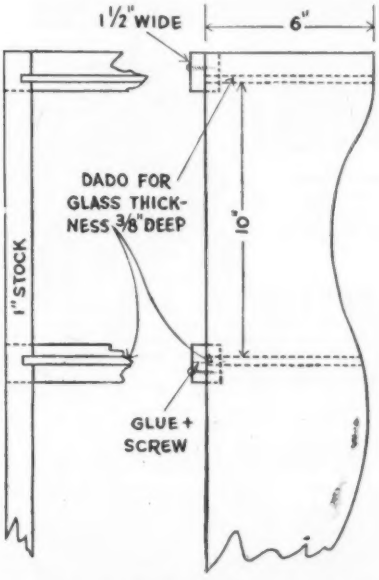
A. Yes, healthy plants can be grown in sand, but they must be fed with chemical fertilizers regularly and must be watched more carefully.

From *Modern Gardening* by P. P. Pirone (Simon & Schuster)

BOCHE PHOTOS

Make room for more "violets"

If you're wondering how to accommodate an expanding African violet collection, these pictures will probably solve your problem. The four-shelf set-up can be made for around $10 and takes only a few hours' work. The lumber used for the sides, bottom shelf and back strips is 1-inch stock, and the upper three shelves are of ¼-inch plate glass.

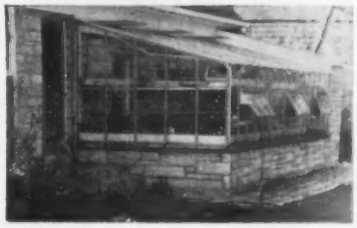


As the diagram indicates, the dadoes which hold the 6-inch-wide plate glass shelves are cut ⅜ inch deep in sides and back-strips; width depends on glass thickness.

Shelves are 10 inches apart, the lowest one at windowsill level.

Sides of system stand on floor, held steady with hooks and eyes.

Waldor Aluminum Greenhouses



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Amaryllis. Only a few. **Royal Dutch** named var., our selection, $6.50. Your selection, $7.00. Howard and Smith bulbs, 80¢. 3 for $2.10.

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How and when to plant. How to keep lawns lush and green. The different seed varieties to use. Write for it today. There is no cost.

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Things Out-of-the-Ordinary

Conducted by C. W. WOOD

Geranium Madame Margot

• If you are looking for a really unusual hanging-basket plant, may I suggest the ivy leaf geranium (Pelargonium peltatum) Madame Margot? Its single white flowers with a faint lilac flush and violet stripes on top of petals are pretty enough for ornaments. But its greatest usefulness will be found in its striking foliage, normally light green with an irregular creamy-white border. If you forget to water the plant until it has become quite dry, the white border on the leaf turns pink. My plant came from Merry Gardens, 1 Simonton Rd., Camden, Maine.

Daylilies Bess Ross and Tootie

• Two new daylily originations of Elmer A. Claar, Bess Ross and Tootie, are among the 1954 introductions of Parry Nurseries, Signal Mountain, Tenn. Tootie, pictured above, is a low-growing plant with lovely wide petals of soft pink with a faint blueish undertone giving it a satin-like finish. Bess Ross is a very brilliant velvety cherry red. Both should do much to enhance the summer perennial border.

Ticks-Off

• What schoolboy doesn't know the menace of ticks as carriers of Rocky Mountain spotted fever? Many repellents are available to prevent these tiny insects from attacking exposed parts of the hands, neck, face and ankles. Now available, too, is a low-pressure bomb called Ticks-Off which was developed to impregnate the outer clothing to give over-all protection to outdoor people. This material has been tested under working conditions by lumbermen for several years and is now obtainable for all who are likely to be working in tick-infested areas. (Whitmire Research Laboratories, St. Louis 10, Missouri.)

BLACK MAGIC AND YOUR HOUSE PLANTS
by Betty Barnes
PLANTING & WATERING

For positive success with green plants, let's take the correct planting and watering steps and follow each one. Remember that smaller planters and pots with drainage dry out more quickly than larger containers with no drainage. And the more porous the pot or planter, the more often you must water.

When you're ready to repot, get your Black Magic Planter Mix **thoroughly** wet in a clean pan, bucket or "what-have-you". Then squeeze out all excess water and fill the planter half way. Set the plants in to their previous depth, fill in with Black Magic and press down firmly around the plants for proper root contact. Frequency of watering depends upon so many factors that it would be foolish of me to suggest a regular schedule. TEST BY TOUCH! If the mix feels damp, don't water. When the surface of the mix becomes dry, water thoroughly with tepid water and don't repeat until the same nearly-dry condition reappears. You'll find that Black Magic holds moisture longer, and you'll save precious time formerly spent at this chore.

An important time to water is just before applying fertilizer of any kind; and to feel absolutely safe, use Black Magic's all-organic Tablets which won't burn the most tender plants.

If your dealer is not supplied send for our mail order list.

***FREE!** Send stamped self-addressed envelope for pamphlet on Black Magic and house plants.*

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ONE ATTACHMENT FREE

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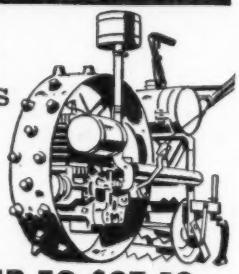
PATENTED ENGINE-IN-WHEEL DESIGN



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VIKING GARDEN TRACTORS have been known for quality for 30 years by farmers, nurserymen, gardeners. 17 work-saving attachments, easy credit terms, prompt shipment, 30 day money-back guarantee, 1-year parts warranty.

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Popular, budget-priced SUBURBANITE (engine-in-wheel design) cultivates 12 in. rows, gives amazing new ease of handling, freedom from fatigue.

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MUMS
BLOOM THIS YEAR!

4 for $1.00

One Each—Red, Yellow, Bronze, White

Separately labelled. Have hundreds of gorgeous blooms year after year on hardy plants 2 ft. high, 3 ft. across. Bloom the first year. $1.00 for 4, postpaid, or C.O.D. plus charges. Order "Offer No. 10". Satisfaction guaranteed.

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8 for $1.00

Grow 12" to 15" flowers on strong, sturdy stems. Separately labelled. Culture included. Send only $1.00 for 4 Bulbs each—Red Chief and Lavender Blue. Postpaid or C.O.D. plus charges. Order "Offer No. 11"

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Each $1.00 **2 for $1.85**

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Unique pot plant, grows real edible fruit. Lovely, fragrant, waxy white flowers, followed by large juicy lemons. Supply limited. Satisfaction guaranteed. Each $1.00, 2 for $1.85 postpaid, or C.O.D. plus charges. Order "Offer No. 12".

DWARF ORANGE PLANT

Beautiful fragrant blooms followed by large, tasty, edible fruit. Get this outstanding novelty today. Each $1.00, 2 for $1.85 postpaid. or C.O.D. plus charges. Order "Offer No. 13".

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1 LEMON PLANT
1 ORANGE PLANT for $1.65 $2.00 Value

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BEGONIAS

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Double blooms. Mixed colors. Top size imported bulbs.

Beautiful indoor-outdoor Flowered Plants. Easily grown in pots or beds. Supply limited. Order "Offer No. 14" today. Only 12 for $1.00. Sent postpaid, or C.O.D. plus charges.

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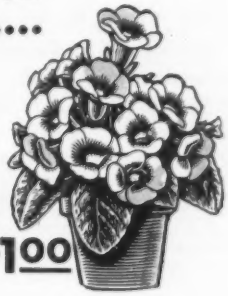
Mixed pastel colors. Grow as house plants indoors in the winter, or in window boxes, beds and rock gardens in summer. Top size bulbs. Supply limited—Order "Offer No. 15" today. Only $1.00 for 3, postpaid, or C.O.D. plus charges.

GLOXINIAS



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Newest Introduction ..**"Double Margaret" —2½" deep blue flowers.** Limited supply. Postpaid, only $1.00, or C.O.D. plus charges. Don't delay. Order "Offer No. 17".

Only $1.00

FREE Beautiful colored plastic pot and saucer

PEPPERMINT STICK ZINNIA FREE

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Please send Offers checked. Enclosed find $_____

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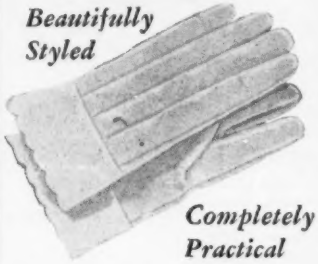
Household and Garden
GLOVES

Beautifully Styled



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These sparkling new household and garden gloves are the most attractive and useful product of this type ever offered. Available in three gorgeous pastel shades—mint green, maize yellow, or azure blue; and special design and material makes one standard size fit everyone. They are the first gloves which permit you to retain your sense of touch for delicate jobs—both indoors and out. Ideal for bridge prizes or shower gifts.

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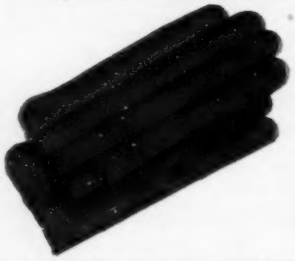

The masculine version of SOFT TOUCH, handsomely styled and perfect for all garden and work-shop uses. Attractive dark green color.

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BROOKVILLE GLOVE COMPANY
Brookville, Pennsylvania

How to Start Roses

[From page 57] in *lightly* with a small-bladed hoe. If any fertilizer has adhered to leaves, remove it with spray from the hose.

Mulching

We used to delay applying mulch until late spring or early summer. Now we put it on immediately after the first feeding. We have tried many mulches but find buckwheat hulls the most satisfactory. Pine needles, ground corn cobs, sawdust and other materials serve well. Peatmoss tends to dry out and become impenetrable by ordinary rains. A good mulch cuts down the problem of weeding by 75 to 90 percent. It conserves moisture, keeps the soil cooler in hot weather and prevents hard packing of the soil surface—a very important point in clay soils. By all means mulch your roses—*and do it early*.

Prune roses ¼ inch above a bud and use a sharp knife or shears for a clean cut which will leave a smooth stem end.

With us the second pruning follows the feeding and mulching. Clippings are gathered and burned. Spraying or dusting is repeated at intervals of a week to ten days, regardless of whether any insects or diseases appear. This is imperative if you want to be sure of good blooms.

Starting With Roses

If this is to be your first year with roses, or if you are adding new plants to your garden, *start early*. Every week's delay after the soil can be dug lessens your chances of success. If planting must be delayed until late April or May, buy growing plants in pots instead of dormant ones. These may be transplanted even when in bloom.

To grow teas, hybrid teas and flori-

For the 6th Consecutive Year
Mandeville
TRIPLE-TESTED
FLOWER SEEDS
feature the latest
ALL-AMERICA
AWARD WINNER

BLAZE ZINNIA

. . . massive, quilled-petal blossoms up to 5" in diameter! Be sure to include *Blaze* in your selections from the Complete Mandeville Assortment of more than 300 outstanding varieties . . . each in the exclusive *Show-How Packet* with map telling when to plant in your locality, plus pictures that show how to tell seedlings from weeds.

All Mandeville Seeds are Triple-Tested for (1) Germination, (2) Quality of Flowers, and (3) Completeness of Mixtures by *Mandeville & King Co.*, Rochester 1, N. Y., *Flower Seed Specialists for 78 Years.*

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For the 1001 back-breaking jobs around the home, garden and yard. Exclusive center support design and balance enables even a child to tip to load or unload and wheel away with ease. Beautiful baked-enamel finish on heavy gauge steel body. All seams welded for extra strength. Double disc rubber tired wheels with lifetime never-oil bearings. On sale at leading hardware, department & garden supply stores. Send for Free folder. Dept. F-4.

MASTERS PLANTER COMPANY
BENTON HARBOR, MICHIGAN

Severe pruning gives fewer and larger blooms. Climate, variety and vigor of growth are all factors to be considered.

bundas successfully you must have a location with good drainage, plenty of sunshine, and free air circulation. The soil is of minor importance because almost any soil can be built into a good rose soil.

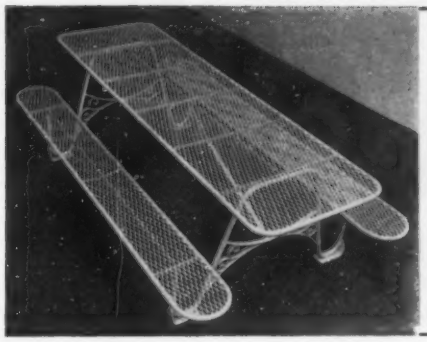
In preparing the soil, dig deep—a minimum of 18 inches and preferably 24. If the soil is very poor, excavate the bed and fill in to at least half its depth or even two-thirds, with good top soil mixed with one-third, by bulk, of compost, rotted manure or peatmoss. Work bonemeal into this (4 to 5 pounds per 100 square feet), or superphosphate at the same rate.

If dormant plants are used, prune back the tops (if not already done by the nursery) to 10 or 15 inches. Cut broken or injured roots back to firm wood and trim back over-long roots. While planting, keep roots plunged in water or covered with wet peatmoss.

Place enough soil in each planting hole (which should be large enough to take roots without crowding) so that the "knuckle" or swelling at the base of the stem will be just at or slightly below the surface after soil is filled in. Spread roots out in natural position, pack soil around them and then fill hole with water and let this soak away before filling in rest of soil. Hill up soil around canes and leave this in place until growth starts, then level it down.

Rose Society Moves

• Niels J. Hansen, the new president of the American Rose Society, reminds all members and prospective members in the January issue of the *American Rose Magazine* that "the offices of the Society have now moved to Columbus and all mail should be sent directly to 4048 Roselea Place, Columbus 14, Ohio."



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SEEDcraft
—unique catalog with natural color photos and instructions. SPECIAL order now and our plant breeder will send you seeds of a brand new, unnamed purple Aster gratis!

Now raise your own favorite flowers from "professional" seeds with full directions!

Be first among your gardening friends to raise exclusive strains directly from seed! Ball seeds are traditionally grown *for florists.* Now we offer *you* a limited supply of distinctive strains with complete cultural instructions.

● Ball Exclusive! Floribunda Sweet Peas—for the first time combining the spring-flowering heat resistance and the extra vigor of the Multiflora strains. Normally produces up to seven (7) large blooms on each long, strong stem. Nothing like it! See offer below. Get Yours Now.

SUCCESSFUL FLORISTS SOW *Ball* SEEDS

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☐ Enclosed is 25c for my copy of SEEDCRAFT. I'll deduct this from my first order. Send me your special aster seeds.
☐ Send me ..... packets of Floribunda Sweet Pea Mix (1/3 oz. plants 10-ft. row) @$1.50 each. I enclose $.....
Send me SEEDCRAFT and special aster seeds FREE.

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Enjoy the Famous Washington Cherry Blossoms Right in Your Own Garden

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Kwanzan cherry blossoms are huge...about 2" in diameter...and a deep pink. They grow in independent clusters of 3 or 4 and completely cover the branches. Blooms usually appear the first or second year after planting. Our trees are 2 to 3 ft. high, just right for transplanting. Will grow to about 25 ft. GROWTH GUARANTEED.

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Largest Growers of Water Lilies and Aquatic Plants on Long Island!

RARE LILACS
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5 NEW LILACS FOR 1954

PINK MIST • SERENE
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Free descriptive list also includes fabulous Havemeyer varieties, standard varieties, and species lilacs. Send for it *now!* Don't delay—only limited number of plants of many kinds. Visit our 7-acre Lilac Park in May.

LILAC-LAND, GLEN HEAD, N. Y.—Find us on Long Island Esso map

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Send Mark Eaton's Propagating Kit. Enclosed is $2.98 (for one)—$5.49 (for two). If I am not completely satisfied my money is to be refunded in full without question.
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Naturalizing

[FROM PAGE 47] advantage of being green all winter.

Also worth considering are the beloved Jack-in-the-pulpits (Arisaema triphyllum) which will quickly take over a shady nook. Daylilies (Hermerocallis) almost thrive on neglect but will give most flowers in sunny areas.

Among true lilies, try the meadow lily (Lilium canadense) or tiger lily (L. tigrinum).

Some of the flowering trees, such as the pink dogwood shown on page 46 in color, are splendid for splendid gardens—but friendly in little friendly gardens as well. Even a formal garden often owes parts of its beauty to scattered plantings done the same way as nature herself might do. An example would be informal groupings of trees and shrubs, for example, in contrast to shaped, measured rows of dressed-up shrubs in hedges. Azaleas, contrasting with green, look impressive in a big place but in many a small place they can be used to put a fiery spot just where wanted. The variations on the naturalizing idea, indeed, can be about as endless as the places where flowers grow.

In Praise of Lilibet

LILIBET, dawn pink floribunda, is a cowinner in this year's All-America Rose Selections. It shares top honor with Mojave (see FLOWER GROWER'S cover, March, 1954) and thus becomes the 38th variety to receive this coveted recognition.

Named from the childhood nickname of Queen Elizabeth II, it produces soft, pink masses of flowers which stand out against the vigorous foliage. On closer inspection, the blooms reveal shadings of several tones and the buds are Empire red before the calyx breaks. The new bronze-green leaves turn to a deep, glossy green as the season advances.

Like other award winners, Lilibet was closely watched over a two-year period in 22 test gardens, selected for the greatest variation in soil and climates. Hardihood, disease resistance, fragrance, form and color were among the thirteen points considered by the trial judges.

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Your Simplicity dealer is listed in the yellow pages of your telephone book. Write for FREE catalog.

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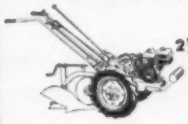

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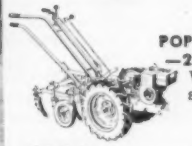

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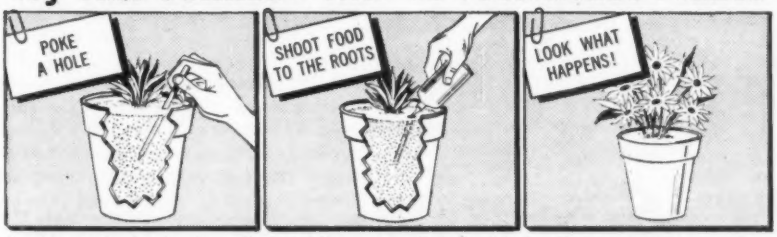
Try This CORRECT WAY To Feed House Plants



No mixing, no mess! Just push several holes in the soil, and shoot Feralon straight to those hungry roots. A safe, free-flowing powder.

One minute once a month—that's all it takes with Feralon. One application goes on feeding for 4 weeks, thanks to Feralon's **organic base!**

Guaranteed results! In just 2 weeks, you'll see thrilling improvement, glorious new life—or your money back from Feralon.

FERALON

COMPLETE PLANT FOOD and SOIL CONDITIONER

SAFE FOR ALL PLANTS — NO DANGER OF BURNING

On Sale At Most 100 APPLICATIONS **89¢**

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If your dealer does not have FERALON, send $1 for bottle mailed postpaid. **Write...FERALON PLANT FOOD** Box 357 OSWEGO, N. Y. Box 33 DESERONTO ONT.

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FERALON is available in larger quantities for lawns, gardens and golf greens. Send us the name of your landscape artist or garden store.

NEW! USEFUL! EASY-TO-USE!

Garden Club officers, serious gardeners and all those interested in any branch of horticulture will be interested to know that the American Horticultural Council has just issued the first edition of The Directory of American Horticulture.

This Directory, edited by A. J. Irving, includes Universities and Colleges teaching horticulture, trial grounds and test gardens, All-America Rose and Seed Selections, Botanic Gardens and Arboretums, public and other gardens, garden centers, horticultural awards and a list of amateur, professional and trade horticultural organizations with complete information as to membership, dues and publications.

Copies of this publication priced at $1.00 may be obtained from:

The Directory of American Horticulture

1 EAST 57th STREET
NEW YORK 22, NEW YORK

Garden Clubs may obtain copies of this Directory in quantity at a reduced rate.

GRASS STAYS SHORT WITHOUT TRIMMING!

No mowing needed for months when you spray with STOP-GRASS! Proved by official tests!

Keep your grass edges short and trim-looking, easier than ever, with this wonderful chemical discovery! STOP-GRASS slows growth of grass so much it needs practically no cutting, but stays short, trim, and neat.

Saves hours of hard work!

Forget back-breaking hours of hard work trimming lawn edges and other hard-to-mow grass borders. Just spray STOP-GRASS on those grass edges early in the season. Then, while your neighbor is hard at work trimming his lawn edges, you can forget about this unpleasant task. Your grass edges will stay short and trim after a single, easy treatment with STOP-GRASS.

Proved by official tests!

Official tests *prove* STOP-GRASS (with Maleic Hydrazide) keeps grass short and eliminates most of the hard work of trimming. The Connecticut Highway Department cut the number of mowings on roadside grass from 19 to just 2 in a single season. When used on roadside grass in Ohio, around cemetery monuments in Chicago, and on grass in Texas, very little trimming was needed all season long.

Take a tip from Professional Landscapers!

When professional landscape men use STOP-GRASS to cut down work and save time and money, it's *got* to be good. Last year landscape men from coast-to-coast used STOP-GRASS to reduce grass-trimming work on lawns around hospitals, parks, airports, cemeteries, estates and private homes, too!

Take a tip from these skilled landscapers. Follow their example and save time and hard work. Spray easy-to-use STOP-GRASS on lawn edges; you'll see how easy it is to keep your lawn neatly trimmed all season.

Where to use STOP-GRASS

Use STOP-GRASS along edges of lawns, walks, and drives;

around flower-beds, trees, bird-baths; next to hedges, fences, walls—wherever mowers won't work or tiresome mechanical edging is needed.

Easy to use!

STOP-GRASS is so easy to use. Just dissolve in water and spray on grass edges with ordinary sprayer or sprinkling can. Grass stays short, needs no trimming for months.

1½ oz. (for 400 sq. ft.)	$1.00
4 oz. (for 1100 sq. ft.)	2.25
1 lb. (for 4400 sq. ft.)	6.95

A Product of Science
Stop-GRASS
TRADE MARK
THE CHEMICAL GRASS TRIMMER

Bigger, better strawberries !

State Colleges prove hormones make berries grow bigger, tastier!

Would you like to raise berries 50 to 100% bigger? Would you like to eat bigger, meatier, more luscious-tasting berries with fewer seeds! Would you like to pick berries from your plants after most others have stopped bearing?

Then spray your strawberries, blackberries and raspberries after blossoms appear—with approved BERRY-SET. The hormone makes the berries grow much larger. There are fewer seeds, so the berries taste better, more delicious.

Michigan State College recommends BERRY-SET!

Michigan State College has recommended BERRY-SET because field tests increased strawberry size up to 50%. And scientists at Oregon State College have also increased strawberry size with hormones. Earlier research by the U. S. Dept. of Agriculture increased blackberry size 50 to 100% with the hormones in BERRY-SET! Use BERRY-SET for strawberries, blackberries, raspberries.

1 oz. (makes 4 gals.)	$ .50
3 oz. (makes 12 gals.)	1.00
12 oz. (makes 48 gals.)	3.00

(No stamps, no C.O.D.'s, please!)

If your dealer does not have the products described on this page, order direct from **SCIENCE PRODUCTS CO.,** 1230 E. 63rd Street, Dept. F-44 Chicago 37, Illinois

Zinnias

[From page 56] sizes. The Lilliput or Baby zinnia, a cut-flower form growing several feet high, is familiar, but its cousin the dwarf Cupid zinnia is not so well known. Its tiny button flowers are delightful for bouquets, but most of them should be left on their bushy, compact plants to form a zinnia edging for taller types.

For colors tailored to new ideas of interior decoration, the zinnias called Pumila Sunshine Tints bring smooth pastels in deep salmon, dainty lilac, clear pink and rich cream. They are a manageable size, dwarf enough to mass in the garden bed without edging, and bear fully double, formally-petaled, 3-inch flowers. By the way, this type dates back almost a century, and is a European stand-by that traveling Americans are perennially "discovering" in the flower markets there.

Even variegated forms of zinnias are possible, as the recently introduced Peppermint Stick proves. The cell mutation resulting in striped flowers was known to 19th-century botanists, but the variegated blooms could not be produced with regularity until more was learned about the cause and inheritance of the mutation. A tall pumila, this zinnia is a middle-border subject.

The hybridists' darlings are those few flowers in which nature has chosen to offer an almost infinite variety of forms from a single species. All but one of the modern zinnias were selected from one species. The exception is the All-America winner Persian Carpet, whose ancestor is Z. angustifolia. The profusion of continuing bloom on a spreading, mound-shaped plant makes Persian Carpet the best edging zinnia of all. Silver-dollar-sized, vari-colored flowers with characteristically pointed petals resemble tiny dahlias. A handful thrust through an ordinary paper doily makes a charming old-fashioned bouquet, and even the foliage is dainty and decorative.

A well-designed planting of zinnias can be spectacularly beautiful, and even the gardener who specializes in exotic plants has occasions to be thankful for a reliable flower bed on which he need spend minimum time. Actually, a good case can be made for a border of nothing but zinnias. Cultural requirements are identical and blooming times close enough to provide solid color throughout the bed until frost. Such a border would definitely contain giant zinnias—that's just where they belong, in a mass. Along with old favorites, like dahlia-flowered and California Giant, try the revolutionary new cactus-flowered type represented by the 1954 All-America winner, bright orange Blaze. These shaggy-petaled zinnias catch a mood of informality, which suits the modern home so well. A proper

giant in size and plant habit, the cactus-flowered zinnias are available in red (Floradale Scarlet), yellow (Sunny Boy), white (Eskimo) and the full mixture generally called Giant Hybrids, Giant Fantasy or Giant Cactus.

These huge zinnias can be tremendously effective if they are planted to show off their virtues, not their faults. The plant construction gives the clue: they branch low, are relatively open and bear their flowers at the top. It's the top that should be shown off, so never plant in a single row, but rather in a block or mass at least 5 feet wide. Seedlings should be thinned to stand 12 inches apart, or less, and fertilized liberally so plants will develop to intertwine and show a solid color on top. The back may be masked by fence or wall, but in front, and wherever the sides of the plants will show, smaller zinnias should be used to bring the color mass right down to ground level. This is where the half-dwarf Pumila Sunshine Tints come in, with Cupid zinnias or Persian Carpet for edging.

Both types of edging plants should stand 6 inches apart to begin with, but Persian Carpet should be thinned ruthlessly to 12 inches. Otherwise they will grow tall, if unable to spread naturally.

Such an all-zinnia border means easy garden work when the dog days of summer make a hammock more attractive than a hoe. If the plant habits are studied and the many varieties used accordingly, the homely zinnia becomes a handsome landscape feature.◈

Next Report Subject:

The Lilies I Have Been Most Successful With In My Region

• Lilies are rising in popularity by leaps and bounds! Some are easy to grow, some difficult, but all are lovely. Some, too, grow more easily in one part of the country than another. We are interested in your favorites and how you have grown them, and would be glad to see photographs, if you've taken any.

A typed manuscript isn't necessary; legible handwriting will do. Make the report between 200 and 500 words, and if you want your manuscript returned, be sure to enclose a stamped, self-addressed envelope. Payment will be made upon publication.

THREE MONTHLY AWARDS

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For the NEXT best.....$25
For the THIRD best.....$20

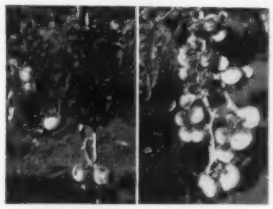
Reports due by April 20 for publication in July

Address:
Report Desk, Flower Grower, 2049 Grand Central Terminal, New York 17, N. Y.

Most delicious tomatoes ever!

You've never tasted tomatoes like these! Big . . meaty . . delicious . . and 3 weeks earlier!

You can pick ripe tomatoes up to *3 weeks earlier* than your neighbor — the biggest, meatiest, most delicious, red-ripe tomatoes you've ever tasted. Many are absolutely SEEDLESS! Slice 'em open and they look like beefsteak — solid meat where seeds usually are! And what flavor! You'll definitely taste the difference!



Unsprayed *Sprayed*

Just spray your tomato plants with BLOSSOM-SET, a hormone preparation made especially for tomatoes. You'll have the earliest tomatoes in your neighborhood — and *more tomatoes on every plant.*

How tomatoes develop:

Early tomato blossoms often drop off the plants without setting fruit, especially if night temperatures are too cool (under 59 degrees) or too warm (over 68 degrees). These conditions are unfavorable for pollination.

To develop into a tomato, the flower must be pollinated. This causes fertilization, which releases natural hormones in the ovary. These hormones cause blossom-set, or fruit-set, which starts development of the tomato. If these hormones are not produced, blossoms won't set fruit; they wither and drop off the plants without developing into tomatoes.

Stops BLOSSOM-DROP! Makes blossoms set fruit!

BLOSSOM-SET hormone does the work of the natural hormones despite cold or warm nights. Just spray it on the blossoms. They'll set fruit. Blossoms won't drop off. And because blossoms are set by chemicals, not by pollen, tomatoes will be SEEDLESS!

Here's official proof!

At the Univ. of Massachusetts 88 plants were sprayed with BLOSSOM-SET, 88 left unsprayed. 276 ripe tomatoes were picked from the sprayed plants the first picking day; not a one from the others. A New Jersey Agric. School found "BLOSSOM-SET produced tomatoes considerably sweeter than those untreated." The Agricultural Research Station at Rehovot, Israel reported tests "have shown the great superiority of BLOSSOM-SET in inducing earlier maturity, larger yields, greatly increased size."

(Left)—from unsprayed plant, flabby, watery, seedy! (Right)—from hormone sprayed plant, larger, meatier, and seedless!

You can do it, too!

Just pour BLOSSOM-SET solution into any sprayer and aim spray at blossom clusters. It's as easy as that!

Ask your dealer for BLOSSOM-SET, by name. Nothing else will do the job so well. Be sure it's BLOSSOM-SET, the hormone spray made specifically for tomatoes.

If your dealer doesn't have BLOSSOM-SET, order by mail.

4 oz. (makes 1 gal.).....$ .75
1 pt. (makes 4 gals.)..... 1.75
Ag. Conc. (makes 50 gals.)..... 5.95

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NO-SEED HORMONE
Blossom-set

The TRUTH about plant foods!

What is the analysis? How important is it? What is a "balanced" plant food? Here are the answers:

All soluble plant foods are beneficial to plant life. All make plants grow faster, stronger, more productive; *but to varying degrees!* There's enough difference to mean a mediocre garden . . . or a glorious, abundantly productive one with big, riotously colored flowers; large, flavorful, early-maturing fruits and vegetables; healthy shrubs; a luxurious lawn; beautiful, vigorous trees.

The essential nutrients!

Every complete plant food contains Nitrogen, Phosphorus, and Potash. State laws require every plant food label to state the numerical percentage of these three nutrients in just that order. This is the analysis. When it is 5-10- 5, the product contains 20% plant nutrients; a 20-20-20 contains 60%; a 10-52-17 contains 79%. Examine the analysis on the label! That's what you're paying for! For example, a pound of 10-52-17 (total, 79%) has 3½ times the plant food content of a 5-10-5 (total, 20%).

A "balanced" plant food!

Just because a plant food has equal parts of the 3 primary nutrients does *not* make it a *balanced* plant food. Far from it! Plants differ in their requirements of these nutrients. A *properly* balanced plant food supplies these basic ingredients according to the needs of the plant and the soil deficiencies.

What the 3 nutrients do!

Most soils are phosphorus-deficient. A good plant food, therefore, should supply more phosphorus than nitrogen or potash. A high phosphorus content (the middle number in the analysis) is important because this nutrient stimulates root growth and heavier fruit production. Nitrogen, (the first number) stimulates leaf and stem growth and makes plants green. Too little makes plants turn yellow; too much makes too much foliage with few fruits or flowers. Potash (the third number), increases plant vigor and disease resistance, produces stronger stalks, improves taste and flavor.

The best plant food value!

Because GARDEN-LIFE Plant Food (formerly Take-Hold PLUS) has the highest analysis obtainable, we believe it is the best plant food you can buy. Examine the analysis! *10-52-17!* No other plant food has a higher analysis. That's 79% active plant food ingredients. GARDEN-LIFE is 100 percent water-soluble... *instantly!* GARDEN-LIFE is properly balanced; has an abundance of phosphorus (so important for insuring the success of all garden plants, especially transplants); and has just the right amounts of nitrogen and potash for most everything that grows, including African Violets and houseplants. And it's economical! The two pound can, dollar for dollar, at $2.25 postpaid, gives you more plant food value for your money! Compare the analysis — and see!

Your dealer may not have GARDEN-LIFE yet. If not, order by mail. But either way — *order now!*

4 oz. (makes 4 to 8 gals.).....$ .50
12 oz. (makes 12 to 24 gals.)..... 1.00
2 lbs. (makes 32 to 64 gals.)..... 2.25
5 lbs. (makes 80 to 160 gals.).... 4.50

Remember the name
GARDEN-LIFE
Formerly TAKE-HOLD PLUS

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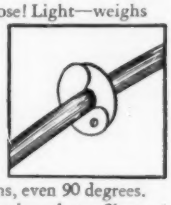
TAKES THE DRUDGERY OUT OF LAWN SPRINKLING

No more weary standing with a hose! *Lawn Master* does a better, more even job for you . . . without attention . . . while you rest or do something else. Sensational *Lawn Master* glides slowly, smoothly across lawn, garden, paths, etc. . . . gently and thoroughly watering a circle 8 to 65 feet wide. Set it for the width you want! *No heavy wheels to slip or dig holes . . . Lawn Master travels by traction on the* hose! Light—weighs only SIX pounds!



LAWN MASTER
Shuts itself off

Firmly grips rubber or plastic garden hose; follows hose around turns, even 90 degrees. Powerful . . . will pull a long hose. Shuts off wherever you fasten stop-plate on hose.

***There's only one* LAWN MASTER**

Nothing else like it! Thousands of happy users could tell you how wonderful it is . . . what a satisfaction. A sensible principle . . . mechanically RIGHT. *Factory guaranteed!* Saves even more time than a power mower! ACT NOW . . . Get *Lawn Master* today!

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2-ARM MODEL only **$27.95** (POST-PAID) **4-ARM MODEL** only **$29.95**

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Ship me one LAWNMASTER @ $_____

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City..... Zone..... State.....

Questions and Answers

Peony Blight

The buds on my double pink peony never open. The outside petals turn brown and dry up, and eventually the entire bud. What causes this?—FRED C. ROEGER *(Ill.)*

Your peony is infected with botrytis. The stems pick up the disease as they push through the soil in spring. Clean up and burn all old stems and leaves in the fall, and next spring spray the young shoots with Bordeaux mixture as they push through the ground.

Primrose Trouble

What's wrong with my primroses? The leaves were nice and green this spring but they soon began to pale and now they're almost white. Also, the buds did not fully open.—H. CHRISTIAN *(Kan.)*

It's quite possible that your soil is too alkaline for primroses. These plants like a naturally cool and moist soil of high organic content. Also, have you checked for the presence of red spider mite?

White Pine Wilt

Early this spring I planted several white pines. The tips of some seemed to wilt and be infected with disease. Could you tell me how I can eradicate it? —CARL LUENENSCHLOSS *(N. J.)*

Your trees have white pine blight—the cause of which is unknown. Spraying with a fungicide will be of little help. However, it has been found that applications of fertilizer—10-6-4, 1 to 2 pounds per inch of tree diameter—will help keep the wilting under control.

Croton Culture

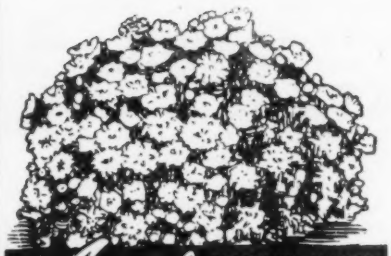
Is it possible to grow croton as a house plant?—MRS. DENNY RABIES *(Pa.)*

Crotons are tropical plants and demand a warm, moist atmosphere and filtered sunlight. These conditions are difficult to duplicate in the home, consequently crotons are not considered a good house plant.

Perpetual Roses

The first two years I had my perpetual roses they were loaded with bloom. However, now they grow about 5 feet tall and only have two or three large roses. What causes this?—O. BECKWICK *(N. D.)*

To keep your perpetual roses short and promote more flowering, prune them back to 2 feet in spring. The best flowering buds are lower down on the stems.



Special BEAUTIFUL HARDY **MUMS** LESS THAN **12¢** EACH

PLANT EARLY
GET BUSHELS OF BLOOMS THIS YEAR

8 CUSHIONS (plants) **$1**
Dwarf chrysanthemums; early, hardy; 8 lovely colors; blooms June to frost.

5 for CUTTING (plants) **$1**
Fully double chrysanthemums, hardy, long-stemmed kinds, best for cutting; 1 each red, pink, white, bronze, yellow.

3 GIANT FLOWERED (plants) **$1**
English chrysanthemums, one each red, yellow, white, 4"-6" across. Spectacular hardy mums of greenhouse size.

SPECIAL! All 16 of the above mums, plus one FREE grand new red mum STOPLIGHT for only **$2**
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ORDER NOW; plants sent at your proper planting time. Cash or C. O. D. Cash orders postpaid.

NOTE: We have been selling this group of 17 mums for over 20 years at no increase in price. Our varieties have changed from year to year to keep up with all the new developments. The quality of our plants and our shipping know-how are also vastly improved.

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GERANIUM PLANTS
A few 4 or 5 year-old geranium plants will light up your garden beyond belief. Try it. Don't let your beautiful plants freeze. Hold them "dormant" over winter, like the dormant 6 year-old plant illustrated here. The time-tested Mura System illustrated booklet shows how easy it is done. Only **$1.50**.

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We have designed a house that actually lures these beautiful birds to nest in your yard year after year. Nesting guaranteed or your money back. Folder-A.

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All showy in the garden and fine for exhibiting. 1 root of each labeled and postpaid at planting time.
Our 1954 **CATALOG** offers 600 of the Newest and Best in **DAHLIAS** with complete Cultural Instructions, and 130 of the Finest **CHRYSANTHEMUMS,** including the Spoons and Spiders. **CATALOG ON REQUEST.**

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SOFT-LEATHER GLOVES

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Made of specially processed lambskin, completely DIRT-PROOF, yet so pliable you scarcely know you have them on. Mold themselves to the hands and *stay on.* Economical, too — outwear 6 pairs of fabric gloves and can be washed.

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(All registered with the Hemerocallis Society)

CARMELO—Medium red with wide overlapping petals strongly reflexed, giving a circular effect

COLONIAL DAME—Famous buffy apricot, banded lightly in rosy tan, with a bright golden throat. Heavily creped and ruffled

FOND CARESS—Lovely lily-shaped blossom of pulest yellow, heavily sprinkled with gold dust. Very fragrant

GARNET ROBE—Popular glowing deep garnet velvet blossom with a yellow-green throat. A must in every daylily garden

HAVANA BROWN—Deep maghogany red-brown. Low growing and a profuse bloomer

REDROCK CANYON—Large orange-red flower, heavily creped. Grows tall, and is a nice addition to the mixed border, as it blooms for a long time

6 PLANTS one of each of the above varieties..... (Catalog value $15.50) **$9.75**

Our new color catalog of Iris and Hemerocallis will be ready about the middle of April. If you wish a copy, please send your name and address to:

MILLIKEN GARDENS
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Vegetable Soil Conditioners

by DR. R. W. SCHERY

THE SPRITES WHO PRESIDE over garden destinies in my small corner of the gardening world were recently at conclave in the hollow of the big tree. Having dispensed with the dry summer as a meritorious conversation piece, they decided to give the recent years' hullaballoo about soil conditioners a going over. A few naughty suggestions were voiced, but for the home vegetable gardener the verdict was "You've got something there"—or so it was reported by the South Wind, who happened to brush by the pixie hollow just then.

And, indeed, of all potential uses for soil conditioners, none has shaped up better than the home vegetable garden. There one can take advantage of all the benefits a conditioner can offer—easier tillage, less laborious weeding, smoother watering, a soil that doesn't crust to prevent emergence, minimized sheet erosion, quicker transplanting, more vigorous root systems, speeded early growth, and in many instances more perfect produce or better yields. Even the commercial grower, who must cut every cost to remain competitive and rightly expects several dollars back from each dollar invested in fertilizer or other soil improvement, is seriously experimenting with conditioner for one or more of these advantages, both under glass and in the truck patch. So, let's quickly take a look at some of the ways conditioners have been used—and the results.

Perhaps the most obvious way to apply a conditioner is to mix it into the soil to a several-inch depth. (Since we are referring to vegetable gardening, we can momentarily ignore the surface seedbed application.) Complete directions for depth application receive star-billing space on each package and on each direction sheet. This incorporation treatment, properly made, will provide most soils with a loose crumbly condition that permits better air exchange in the root zone and quicker water percolation through the soil.

What has actually happened at a "bugs-eye view" level (imagine yourself reduced to the size of a microbe, wandering through the pore system of the soil) is that the proportion of larger pore spaces has increased. Our bug enjoys many more spacious hallways and gigantic bugatoriums than in comparable untreated soil. This increase in pore space happens because the soil conditioner molecules bind

HAVE MORE TIME TO ENJOY YOUR GARDEN

WITH THE NEW

FERTILEZE FLOW MIXER

And you'll have a LOVELIER garden to enjoy!

Says
LOUIS BROMFIELD
"FERTILEZE is the easiest-to-apply, most effective plant food I've ever used."

Here's what the sturdy, precision-made Flow Mixer does for you!

- It automatically mixes soluble and liquid plant food, soil conditioners, insecticides, weed killers . . . with the water from your garden hose!
- It makes *water* do the work you would ordinarily have to do by hand . . . applying *any* soluble garden product through your hose and nozzle, automatic sprinkler or spray hose . . . accurately, easily!
- It saves you money by applying *small* amounts of materials *when* and *where* they are needed!

To make your garden and lawn flourish beyond your wildest expectations, apply soluble, all-nutrient FERTILEZE Plant Food with the Flow Mixer. For complete nutrition, convenience of use and gratifying results, *there's nothing like FERTILEZE.* Take it easy while you garden . . . and put this winning FERTILEZE team to work *now!*

FERTILEZE FLOW MIXER—*complete with 3-ft. connecting hose, informative* Feeding Guide *and full instructions* $17.95

'HANDY-DOZEN' CARTON OF FERTILEZE—*Twelve 12-oz. plastic bags of concentrated plant food for full-season feeding of average lawn or garden* $6.95

18-LB. 'ECONOMY' BOX OF FERTILEZE—*Save money on full season supply to cover areas up to 3,000 sq. ft. with moisture-proof container and plastic scoop* $11.95

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Please send:
☐ FERTILEZE FLOW MIXER ($17.95)
☐ 'HANDY DOZEN' CARTON ($6.95)
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ADDRESS.....
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Power to Mow... Power to Go...

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many very small soil particles into aggregates; these are then too large to wash and settle into small crevices and spaces created by cultivation or frost action. The larger pores don't fill in with loose sediment after every rain or watering, since this sediment is immobilized by the conditioner; settling or recompaction is postponed.

It's about like comparing the space between peas in a gigantic pile of peas with that between basketballs in a similar-size pile. A grasshopper, for example, could work his way through the pile of basketballs, but not through the pea pile. So might a drop of water soak through a treated soil but not through an untreated one.

In most medium or heavy soils (fine silts and clays) this increase in large pore space is quite helpful. Soils drain better in spring, warming sooner and giving a workable seedbed more quickly. With more abundant air (pulled into the soil behind the rapidly percolating water), the microorganisms are apt to be more active. Root systems seem to grow fuller, and root vegetables such as radishes or carrots generally form more quickly and more sturdily, unobstructed by a tight soil that at its worst might cause gnarled and twisted roots. With carrots, in a greenhouse test at the University of California, Dr. J. P. Martin obtained about 60 per cent greater root weight on soil treated with Krilium. At Ohio State University, with the use of very light rates of conditioner, about 11 per cent more root weight was obtained from treated field plots. Horticulturists at the University of Wisconsin reported a 40 per cent yield increase of carrots when one of the conditioners was tested.

Benefits from conditioner incorporation are not always confined to behavior of soil and root systems. On responsive soils above-ground portions of plants frequently reflect considerable stimulus. This is especially true for plants such as lettuce, cabbage and spinach, the leafy portions of which are consumed. Many tests have shown these leafy vegetables to give higher yields more surely and quickly, even though, in the same soil, fruit yields of other plants (such as tomato or corn) may level off in time and indicate no significant increase by the end of the season.

Harvest of a vegetable that is botanically a fruit or flower (corn, cauliflower, peas, tomato, eggplant, etc.), is perhaps not as apt to reflect yield increase due to conditioner treatment as are leafy types. Nevertheless, in many cases harvest has been materially hastened or yields appreciably benefitted. Dr. Wester, at the United States Department of Agriculture, Beltsville, Md., has reported on and published pictures of broccoli in which plants from conditioned soil have full, ready heads, while those

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AMATEUR GARDENERS, GARDEN CLUBS, SCHOOLS: ADVERTISERS, AGENCIES, SEED STORES, NURSERIES,

A valuable new tool—for occasional reference and often for daily use—has just been made available to you.

The FLOWER COLOR DETECTOR, published by the American Horticultural Council, is a pocket-size color chart with scientifically standardized colors and simplified color names conforming to standard American usage. It is bound in an attractive semi-stiff cover and is already being widely distributed to amateur, professional and commercial horticulturists. Based on the Wanscher International Color Chart, this Color Detector will be used as the simplified American standard in color names and identification. You cannot be without it!

Priced at $1.00 this Flower Color Detector may be ordered from **American Horticultural Council, Bailey Hortatorium, Cornell University, Ithaca, New York.** In addition, this helpful item is available at quantity discount for those who wish to resell them to customers.

from untreated soil have not yet formed heads. In Ohio, with a late tomato planting, full, ripe fruits were more abundant in October on plots receiving conditioner treatment than on check plots. At the Geneva Experiment Station of Cornell University, Drs. Sayre and Vittum obtained about a 15 per cent kidney bean yield increase on conditioned plots compared with checks.

Besides actually helping a given plant to grow better, the use of soil conditioners may benefit either the commercial grower or the home gardener in another way. Conditioners often help in getting a better stand up from a certain seeding. If from 100 seeds, 95 plants emerge and grow on a conditioner-treated row, compared to, say only 75 on an untreated row, there should be (without replanting) about 20 per cent more plants working for the gardener when conditioner has been used. On soils responsive to conditioner treatment, beets and beans in Ohio, carrots in New Jersey and Virginia, and onions in California have all given better stands when a light surface application of conditioner was made along the seeded row.

This type of conditioner use may be termed the anti-crust treatment, and can be effective with only light surface applications on the newly-seeded row. Failure of sprouting seeds to emerge in untreated soil is often due to the formation of a tight soil surface from slaking of the soil particles during rain or watering. If weather is such that the slaked soil surface drys out at the time the seeds are sprouting, the resultant crust may be so hard that the seeds cannot push through. Beans then die of "broken-neck," and carrot seedlings never reach the sunlight in abundance. Of course, anti-crust benefits also result from incorporation treatments, and the home vegetable gardener will probably always stick to the latter methods. But the commercial grower finds anti-crust surface treatment more economical, since only a few pounds of conditioner are sufficient to treat an acre of crop rows at the light rates effective. The grower regards this treatment only as "insurance" for a getting a stand up should weather conditions prevail conducive to crusting; he counts on no subsequent influence on plant growth from the treatment.

Doubtlessly most FLOWER GROWER readers are somewhat familiar with chemical soil conditioners. You have probably either tried one yourself, or have at least been exposed to the wave of publicity and barrage of articles following the first public announcement of Krilium in 1951. You may want to dispatch me to Siberia, then, for repeating platitudes about the proper use of conditioners, but the fact remains that some folks still use conditioners incorrectly and are disappointed with results. So here's a parting addendum on "dos and don'ts" for using soil conditioner in the vegetable garden:

1. Chemical soil conditioners are not fertilizers: they maintain *structure* of the soil (the way soil particles hold together); are not meant to improve fertility (nutrient or "plant food" content of soil).

2. The soil to be treated must be worked, as by spading, rotary tilling, disking, etc.; a conditioner cannot simply be spread on the surface of a compact, untilled soil and be expected to produce desirable aggregation. The conditioners will not cause aggregation, but will stabilize desirable-size aggregates produced by working the soil.

3. Soils on the heavy side, containing some clay and fine silt, generally respond best to conditioners. Very sandy soils, mucks, or very acid types may not respond well, though there are exceptions.

4. With incorporation treatments the conditioner should be thoroughly mixed into soil that is in a workable condition (not too wet as to be sticky, not too dry as to be dusty). If the soil is dusty-dry at time of mixing wet it down after mixing in the conditioner, wait a day, and then re-work it to desirable tilth. When using conditioner, try to avoid applying it to a wet surface that will cause it to gum up before mixing becomes possible; mix it into the soil as quickly as is feasible. Thorough mixing does mean work—with rake, hoe, potato fork, rotary tiller, or other cultivating device—but a certain amount of old-fashioned work is inherent in gardening, and in the opinion of many vegetable gardeners this "work" is fun.

Roses in Landscaping

• Roses will be highlighted in a competition of landscape designs for a suburban home, sponsored by the American Rose Society. Cash prizes of $75, $50 and $25 will be awarded for the best entries. Both amateurs and professionals may enter the contest, but each competitor is limited to three entries. There will be two divisions of entries — contemporary and traditional. All entries must conform to the specifications of each division. They will be judged on the basis of effectiveness of design for outdoor living, low maintenance time and cost, privacy, and intelligent use of plant materials. For further information on entries write to Dr. Fred J. Nisbet, American Rose Society, 4048 Roselea Place, Columbus 14, Ohio. All entries should be submitted to Dr. Nisbet by midnight Monday, May 3, 1954.

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NAGC Choices For A Colorful Gladiolus Garden

GLADIOLUS PLANTING TIME is just about here. In fact, planting has begun on a large scale in the southern areas of the country. For many gardeners, however, selecting the proper varieties for their garden may present a difficult problem in the face of so many variety choices listed in the catalogs.

You can be sure of success if you choose varieties for your garden from the list of those tested and approved in the North American Gladiolus Council Trial Gardens. Each year, varieties from hybridizers in the U. S. and Canada are checked and only the few best added to a list which now totals 37. Added this last year were:

QUEEN ANNE (Johnson) — pure white with bright red blotch, 5 inches.
SEEDLING 5-49 (Luchtenberg) — white with cream-lipped petals, 5 inches.
SUNNY CHIP (Schaffer) — Bright buff with pale red blotch, 5½ inches.
PINK DIAMOND (Fischer)—Ruffled lavender-pink with open cream throat, 4¾ inches.
GOLDEN BOY (Secrest)—medium yellow self, 4¼ inches.
ROYAL STEWART (Pommert) — light red with deeper throat, 5 inches.
ARGOSY (Armstrong) — light red, 4¾ inches.

In the previous year, 1952, three varieties were added:

HARRISBERGER (Mikle) — ruffled deep cherry-red self, 6 inches.
TRAFALGAR (Klein)—heavily ruffled reddish purple, 5 inches.
ROSITA (Woods) — ruffled and waved, medium rose, darker rose blotch, 5½ inches.

In 1951, new varieties were:

KING SIZE (Hartman)—light salmon with small red feather on cream throat.
WHITE TOWER (Lins)—white with red throat.
BUFF (Mikle)—deeply ruffled buff-salmon with cream throat.

—MERLE B. DOTY, President
North American Gladiolus Council

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Make Mine Iris

[FROM PAGE 49] are being introduced.

The culture of bearded iris is, of course, proverbially simple. Iris like an alkaline soil and do best in full sun. In fact, sun is essential to prolific bloom. Bonemeal is the only fertilizer iris require and should be applied in early spring, when new growth first starts. The result: your iris will grow abundantly through the year and reward you with a magnificant blooming season in May and June.

Never plant bearded iris deeply. Place your clump in a shallow hole (in which you have sprinkled bonemeal), with the rhizome (or fleshy root) almost on the surface of the ground, uncovered and in a horizontal position. There it will receive the full benefit of the sun.

Good drainage is essential, and it is wise to keep fallen leaves away from the rhizomes to avoid any danger of rot. But as for disease and insect pests, bearded iris are freer of these than any other outdoor plant I can think of.

Where to use iris in the garden? Most anywhere! With their tall majestic beauty they give a fine color accent to lawns or shrubbery—or blend obligingly with other flowers.

A few outstanding bearded iris which I'd like to recommend are the following: BLUE VALLEY and DANUBE WAVE, both blue; OLA KALA, yellow, 1948 Dykes Award winner; ARAB CHIEF, a burnt orange that blooms late; BLACK FOREST and BLACK DIAMOND, near blacks; THE TANNER, mustard tan; MISTY GOLD, lemon yellow and white; RANGER, deep crimson; SOLID MAHOGANY, mahogany with velvety texture; CHAR MAIZE, chartreuse; LADY MOHR, oyster white and chartreuse; ARGUS PHEASANT, gleaming brown;

Among the variegates, I especially like BLACK AND GOLD, red-black and beige, and HIGH COMMAND, rich red and gold. In the plicata class, MINNIE COLQUITT, white stippled with purple, and FIRECRACKER, red-touched yellow.

Among the blends, I choose PRAIRIE SUNSET, peach, pink, and gold, and JULIET, which is a copper, salmon and orange.

Excellent pinks are CHERIE, PINK FORMAL, FANTASY and CHERRY FLIP. COPPER MEDALLION glows with a rich coppery lustre, and INCA CHIEF, a golden bronze, is a startling recent introduction.

For a selection of the most popular iris varieties grown today, see page 38, March FLOWER GROWER, which carries the annual symposium of the country's 100 favorite iris, as chosen by American Iris Society members.

There was a phrase I once heard which made a lasting impression on me—"Paint your garden with iris"—and I leave it with you as you plan your garden for the season ahead.

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New Books

By ESTHER C. GRAYSON

GARDEN THEORY gets put into practice outdoors this month in most parts of the country. Appropriately enough, the South, where gardens are already in full bloom, comes in for a bit of extra attention on the early spring book list.

HUDSON'S SOUTHERN GARDENING—A PRACTICAL AND COMPLETE HANDBOOK is the most complete work on gardening in the South since Louise and Donald Hastings' offering. "The Southern Garden Book." It is a fat tome of almost 500 pages, published by Tupper and Love, Inc., Atlanta, Ga., and priced at $4.95. Its author, Charles J. Hudson Jr., is a garden writer, lecturer and editor. He has taught floriculture at Cornell University, served as a park commissioner, and is now garden columnist for the *Atlanta Journal* and *Constitution* as well as a contributor to garden magazines.

The first part of the volume is devoted to gardening practices, while the second half deals with specific plant material—lawn grasses, trees, shrubs and flowers. There are chapters on vegetable and fruit gardening, a planting calendar and valuable tables and charts. Line drawings illustrate the text.

A more specialized work by Rosalie Doolittle in collaboration with Harriet Tiedebohl is entitled SOUTHWEST GARDENING. It is published by the University of New Mexico Press, Albuquerque, N. M.

This fine book covers all phases of gardening in the Southwest from irrigation, soils and regional problems to plant materials. There is a section, too, on property plans, complete with diagrams, and a month-by-month gardener's calendar.

Freely illustrated with full-page photogravures, a few color reproductions and many amusing pen-and-ink sketches by Mrs. Doolittle, the book is very attractive as well as informative.

Mrs. R. G. Wyld, the author of the fact-packed, paper-bound THE HOW-TO BOOK ON STRAWBERRIES, is a successful grower and marketer in upper New York state. She specializes in new and improved varieties and works in close cooperation with Dr. George Slate, small fruits specialist at the Geneva Experiment Station.

Incorporated in the text are answers to hundreds of questions which have been received by her firm. She tells where, how and when to plant; how to select varieties and where to get them; fertilizing, cultivation, watering and mulching; matt, hill and spaced row

systems; growing everbearers; picking; growing in jars, barrels and other gadgets; and she charts the cure and prevention of pests and diseases.

The book is published by the author at The Berry Patch, Honeoye Falls, N. Y., $1.50 and includes many drawings.

INDOOR PLANTS AND GARDENS by Margaret E. Jones and H. F. Clark is

Perforated leaves of Philodendron leichtlini against a bamboo screen—from new British book "Indoor Plants and Gardens."

another welcome book on house plants. It is published by the British Book Centre, Inc., N. Y. C., $4.00.

Most of the volume's 154 pages are taken up with plant descriptions and instructions on care, selection and arrangement. One appendix lists plants for various locations and temperatures, while a second gives a list of plant sources.

Unusually fine drawings of many of the 100 species described accompany the text, and there are 40 pages of photographs showing the plants in use, mostly in the British Isles and Europe. The difference in decor and arrangement between American and continental homes is of interest. On the whole, plants are permitted to take over windows with more abandon there.

The growing enthusiasm among plant lovers for amateur home orchid growing has no doubt produced YOU CAN GROW ORCHIDS by Mary Noble. Published by the author, 3003 Riverside Ave., Jacksonville 5, Fla., at $1.98, it covers the most important phases of a fascinating horticultural subject.

Part I is devoted to the structure of various types of orchids, and succeeding sections take up their general requirements; maintenance; types, species and hybrids; housing; pests and diseases; and making corsages.

Here in America an attractive volume listing and describing familiar garden flowers in alphabetical order has been compiled by Marjorie P. Johnson, edited by Montague Free and published by Doubleday & Co., N. Y. C. THE CONCISE ENCYCLOPEDIA OF FAVORITE FLOWERS costs only $3.95 and has 256 pages. Each item is illustrated by Katherine Brimer and its type, family, genus and species listed. Then follow description, uses, special assets, faults and culture.

Though most of the plants are entered alphabetically under their common names, there are exceptions such as kniphofia, which is listed under "K" rather than "R" for its homely name of red hot poker. Also, the various iris appear under their type names—bearded under "B", Japanese under "J," etc. However, anyone who does not readily find what he wants by a glance through the book can refer to the cross index, where all Latin names appear.

Gay end papers dress up the volume, and inside are a number of charming illustrations in full color. This is a fine book for the beginner who wishes to become acquainted rapidly with a variety of plant material.

Grape hyacinths—one of the 106 charming wash drawings which illustrate "The Concise Encyclopedia of Favorite Flowers."

Although THE GROWING YEAR, MONTH BY MONTH, IN A HOME GARDEN by Clifton Leslie is in the form of a garden calendar, it is not run-of-the-mill but the work of a keen gardener, nature lover and plantsman.

One unusual and appealing feature is the description of plants during their blooming months rather than at planting time. Thus Christmas roses, Johnny-jump-ups and other winter bloomers are featured in January, snowdrops and English daisies in February. A check list at the end of each chapter gives a summary of garden operations for the month.

For inspiration, practical information and the joy of reading a garden book with admirable literary style, select THE GROWING YEAR. It is published by Farrar, Strauss and Young, Inc., N. Y. C., $3.50.

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The Garden Clubs

by MARGET COCHRANE COLE

THE 25th anniversary of the National Council of State Garden Clubs will be celebrated April 4-8 at Myrtle Beach, South Carolina.

Headquarters for the convention will be the delightful and restful Ocean Forest Hotel, a large modern building situated right on the beach. Its architect, Stanhope Johnson, expert in Georgian design, is the husband of an active member of the Lynchburg, Virginia, garden club.

Representatives of 300,000 members of garden clubs from all over the United States will attend. The chief discussions will center on the establishment of a permanent home for the National Council of State Garden Clubs to be located in the center of the United States. The committee has provided eleven ways in which contributions may be made, either individually or through club projects. All gifts to the Permanent Home Fund of National Council are exempt from federal income tax. Bricks are now being sold at $1.00 each, so by the time the location is settled, the building materials should be ready for the construction project.

John R. Whiting, editor and publisher of FLOWER GROWER, will attend the convention to present Flower Grower's National Council Awards for excellence in garden club and state publications.

In Sumter, South Carolina, the silver anniversary theme will be used in the flower show. Mrs. Edwin Boyle announces that the Sumter club will share the silver offering taken at the show with the Permanent Home Fund of National Council. Tours of South Carolina gardens are open from April 1 through April 15.

Members of the Horticultural Society of New York will be visiting Virginia April 9, 10 and 11. Richard B. Farnham will accompany members to the Cavalier Hotel, Virginia Beach. The city gardens of Norfolk, where Frederic Heutte has established an outstanding collection of azaleas, will be visited. Mr. Heutte, always generous in his assistance to garden club members, stimulates the greatest interest in azaleas. It will be a privilege for those who make the trip to go through the gardens with him as host. A luncheon is planned at the Norfolk Yacht Club. The group will take a ferry to the eastern shore where Jacque Legendre of Gulf Stream Nurseries, Wachapreague, Virginia, will guide them to interesting gardens.

On April 26 the Horticultural Society of New York will go to Rye, New York, to visit the gardens of Mr. and Mrs. Joseph G. DeFina (the Flagler estate) and those of the Arthur J. Michaels. In Greenwich they will visit the Beinecke estate.

Just one year ago in April, the state of Washington's Parks Commission and Highway and Parks Department cooperated with the clubs of the Chuckanut district in selecting four suitable acres on which trees could be planted and cared for. Mrs. Robert Mitchell and her committee members direct the project in which two or more trees of one kind are planted. Selection of the trees is made from a list compiled by the arboretum committee to assist the clubs in choosing those suitable for the region. Pine, fir, cedar, larch, aspen, paper birch and dogwood give us an idea of the handsome plant materials available.

EDITOR'S NOTE: *Pictures used in the March column were of the Cincinnati Garden Center instead of the Cleveland Garden Center as erroneously stated.*

Garden Club Forum

Conducted by VICTOR H. RIES

EXTENSION FLORICULTURIST, OHIO STATE UNIVERSITY, COLUMBUS, OHIO

SPRING is a good time to hold a garden clinic. It could be conducted by either an expert member gardener or an outside authority, with each member bringing in one to five written questions on problems encountered last year. It'd be useful, too, to send the questions and answers to the newspaper.

Heritage of Ohio

The summer flower show schedule of The Plains Garden Club, Athens County, Ohio, was as follows. Theme of the show: Heritage of Ohio, 1803 to 1953.

I. Show-Settings Compositions
   A. *At Home by the Fireside*, colonial composition using antique furniture
   B. *Welcome, Friends*, entrance-hall composition using antique furniture and flower or bird print
   C. *Cozy Corner*, composition using corner grouping of antique furniture

II. Artistic Arrangements
   A. *Early American Influence*,

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	Value
3 GIANT FLOWERED MUMS Can be disbudded to 5 to 7" blooms, 1 each pink, scarlet, gold.	$1.00
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2 SPOON MUMS ..... Exotic dainty novelties; 1 lavender, 1 garnet.	.84
2 NEW DAISY MUMS .... Large flowers, brilliant colors, 1 salmon, 1 maroon.	.84
4 CUSHION MUMS ..... Dwarf early blooming; 1 each red, pink, yellow, bronze.	1.00
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by using an antique container
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E. *Books and Flowers*, depicting book title using book as accessory
F. *Magic of Color*, one predominate color
G. *Modern Note*, for television or radio console
H. *Let's Have Fun*, humorous arrangements by the men
I. *The Juniors Do It This Way*, arrangements in toy containers by youngsters under 12, in kitchen utensils by those 12 or older

III. Educational Arrangements
A. *Specimens*, old-fashioned garden flowers
B. *Exhibit*, garden supplies (tools, fertilizers, etc.)

Garden Events

MAR. 30-APR. 4, TOLEDO, OHIO—Garden and Flower Festival, Garden Club Forum of Toledo District, Civic Auditorium.

APR. 2-11, PASADENA, CALIF.—Pasadena Flower Show.

APR. 3-4, HUNTINGTON, W. VA.—Narcissus Show, Huntington Council of Garden Clubs, Memorial Field House.

APR. 3-4, LINCOLN, NEB.—African Violet Show, Lincoln African Violet Society, First Federal Building.

APR. 4-8, MYRTLE BEACH, S. C.—Convention, National Council of State Garden Clubs, Ocean Forest Hotel.

APR. 7-8, WILLIAMSBURG, VA.—Annual Daffodil Show, Garden Club of Virginia and Garden Club of Gloucester.

APR. 8, MINNEAPOLIS, MINN.—African Violet Show, African Violet Clubs of Minneapolis and St. Paul and Vicinity, L. S. Donaldson Co.

APR. 9-11, KIRKLAND, WASH.—Annual Primrose Show, East Side Garden Club, Civic Center.

APR. 10-11, CHARLESTON, S. C.—Spring Flower Show, Council of Garden Clubs of Charleston and Greater Charleston, Johnson, Hagood Stadium.

APR. 10, SIOUX CITY, IOWA—African Violet Show, Siouxland African Violet Society, Art Center.

APR. 17-18, DAYTON, OHIO—Spring Flower Show, Dayton Council of Garden Clubs, Art Institute.

APR. 24-MAY 1, RICHMOND, VA.—Historic Garden Week.

APR. 30-MAY 3, PHILADELPHIA, PA.—Pennsylvania House and Garden Tour, Garden Club Federation of Pennsylvania.

APR. 30-MAY 7, OAKLAND, CALIF.—California Garden Show.

Since dates are subject to change, we suggest you check with clubs and societies before traveling to out-of-town shows and meetings.

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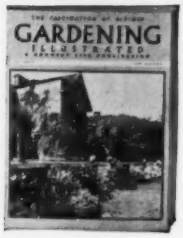

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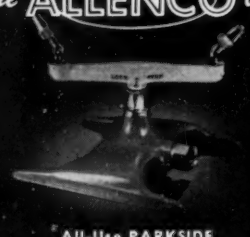

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Q & A on Lawns

[FROM PAGE 87] perennial grasses that are completely adapted to the location. If they are not, then the sod ought to be refused and plans made for seeding the lawn to grasses that will be permanent.

Q We have just moved to New Orleans and have bought a new home. As Northerners, we aren't familiar with the best lawn grasses for the south. What do you think we should plant?

A One of the grasses widely used for lawns in New Orleans is St. Augustine grass. Another one that grows well is Bermudagrass when it is adequately fertilized. The zoysia grasses are not too well known in New Orleans as yet, but they too have a place for lawns where the level of maintenance is likely to be low. Here again, wherever you go, if you are not familiar with the lawn grasses in that area, start talking to the county agent, the local seed dealer, or call up the nearest golf course and talk to the golf course superintendent. Among these people, you will get a pretty clear idea of what grasses are best adapted in your area.

Q Will crabgrass killers work on what the neighbors call "devil-grass" here in California?

A I am afraid that the crabgrass killers do not have much effect on "devilgrass" in California. "Devil-grass" isn't a very good name because it doesn't actually describe what kind of grass we are talking about. It might be Bermudagrass, it might be kikuyugrass, or it might be something else. Before we start talking about the control of any grass, we had better find out definitely what it is, and consult with the authorities. In California, there are centers of grass information at the University of California, both at Los Angeles and at Davis. Authentic and accurate information can be obtained from these places.

Q What time of year should I start a new lawn?

A If one had a choice, it would be in late summer for the cool-season lawns and early spring for the lawns composed of the warm-season grasses such as centipede, zoysia, and others. Too often the new lawn must be started when the new home is finished, regardless of whether or not it is the most favorable time to plant the grasses adapted to that particular region. When the new lawn must be planted in an off-season, it may be best to make thorough preparation and then make a seeding of

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Choose from these most popular varieties: 75c ea.

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DOUBLE FLOWERING TYPE 75¢ ea.
Azure Beauty, Dark Beauty, Helen Wilson Bouquet, Navy Bouquet, Purity, Ruby Bouquet

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Episcia Coccinea, Episcia Cupreta, Episcia Lilacena, Episcia Silver Sheen, Episcia Splendens, Episcia Verdifolia

For more complete description, see article on Episcias in March Flower Grower, page 126.

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temporary grasses. This serves to control erosion, mud and dust until the proper time to establish the adapted perennial or permanent grasses.

Q How do I know what kind of grass seed or mixture to select?

A Every state agricultural experiment station has information on this, usually in the form of bulletins, distributed through the state agriculture extension service. Most reputable seedsmen depend upon the experiment stations for up-to-date information, and their advice on seed mixtures usually follows the experiment station's recommendations. A good rule of thumb in selecting any grass seed or mixture is that the major part of the mixture should contain perennial or permanent grasses, that will make up the permanent lawn.

Q If I can't start a permanent lawn now, is there any sort of seed I can sow for a temporary effect?

A Yes, in most cases ryegrass is the quickest growing temporary cover. It controls erosion, mud and dust until it is time to plant the permanent grasses. This is one of the best uses for ryegrass. I would far rather use it in this connection than in a mixture of permanent grasses where it actually becomes a "smother" crop and retards the development of the permanent grasses.

Q If I am going to make a new lawn in the fall, is there anything I should do now toward preparing the soil?

A Yes. The soil for a late summer or early fall planting of cool-season grasses can be put into shape while the seedbed is being prepared for the temporary sowing of ryegrass. Ample lime, if it is needed according to the soil test, and plenty of fertilizer should be worked thoroughly into the soil to a depth of 4 to 6 inches. There should be ample soil fertility, not only to grow the temporary cover of ryegrass, but to have a good reserve in the soil to promote the growth of permanent grasses when they are planted in the fall.

Q What kind of soil is best for a lawn?

A The best answer to this is the kind of soil that is already there. In general, topsoil is not required for the development of good lawn turf. Topsoil too often is thought of as being synonymous with fertile soil, when actually quite the reverse may be true. Much "topsoil" that I have seen has come from somebody's basement excavation. It is called "topsoil" when it is delivered

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to the lawn and placed on top of the existing soil. If cost was not a consideration and you were able to get a particular kind of soil, then it would be possible to say that a medium sandy loam would be the best for a lawn. However, that is not necessary, for with our present day knowledge of cultivation and fertilization of soils and with the better grasses that we have today, we can make an acceptable lawn on almost any kind of soil that occurs in the locality.

Q Can I grow grass on a steep slope?

A Yes, if you select the kind of grass that is adapted to the particular type of slope. One of the reasons that grasses do not grow well on steep slopes is that the water runs off, leaving the soil too dry for the best growth of grass. Also, much of the fertilizer is washed away, if the fertilizer is put there in the first place. It is just as easy to grow grass on a slope as on level ground if the basic principles of cultivating (aerifying) the soil, liming and fertilizing, and adequate watering are followed. However, because of the droughty nature of slopes and the runoff of rainfall, it will pay to select those grasses that are most drought and heat-resistant. In the north, these grasses are Kentucky bluegrass, Kentucky 31 fescue and red fescue. In the mid-south or transition zone, one of the better grasses for slopes, especially south-facing slopes, is zoysia. Zoysia japonica is somewhat better adapted than Zoysia matrella. Bermudagrass, where it is desired, makes an acceptable slope grass because it fulfills the qualifications. Farther south, any of the warm-season grasses such as centipede, bermuda, zoysia and St. Augustine may be used.

Q The grass under my large trees never does well. What can I do about it?

A One of the reasons that grass fails to do well under large trees is because of the competition for water, plant food and light. The tree gets first call on all of these requirements for good grass growth. In my case, I follow the practice of thoroughly cultivating (aerifying) the soil several times a season. Also, I select the grasses that are best able to grow under those conditions. Third, I fertilize more generously under the big trees because you have to feed both the tree and the grass. However, I tend to concentrate my fertilizer during that period of the year when the tree is making the least demands for water, plant food and light.

Q I think my lawn needs fertilizer. What should I use, how much and when should I apply it?

to get more bloom

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EM-T-FILL

Drains Outdoor Pools, Flooded Cellars, Window Wells, Tubs, Etc. . . .

Here is an easy way to put your garden hose to work for you. Just attach EM-T-FILL unit between your garden hose and the short length we send with unit. Attach one hose to nearest cold water faucet, submerge syphon unit in flood water, and run free end of hose to any open drain, sink or other discharge point. Turn on faucet water to full extent. On average water pressure EM-T-FILL will move an average of 300 gallons per hour.

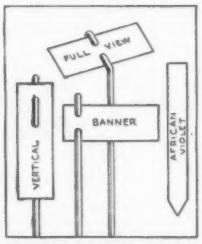
No hand pumping; no bailing. Unit is made of life-time solid brass; no moving parts to get out of order; always ready for instant use in emergency. Seven foot hose included. Satisfaction or money refunded.

Mail us your order TODAY

DRUMCLIFF CO., Dept. SH, Towson 4, Md.

Lincoln PLASTIC PLANT MARKERS

and Lincoln Special Waterproof Ink



Widely used in Private Gardens, Nurseries, Public Parks, Experimental Stations. Shipped to all parts of the United States and Foreign Countries.

Artistic, easily read, All-weather resistant, Legible for years.

PRICES include 12" metal supports, ink, postage.

LOTS OF	25	100
Banner 1½"x2½"	$1.50	4.75
Vertical 1"x3"	1.50	4.75
Full View 12"	1.75	6.00
do 1½"x3" 24"	2.50	8.00
Snap-On	1.35	4.50

AFRICAN VIOLET LABELS in Assorted Sizes....$1.50
AFRICAN VIOLET LABELS ⅝" x 3¾" x 4"..... 2.00
EXTRA LABELS—per 100—Banner $3.00. Vertical $3.00 and Full View $3.50—including ink & postage

LINCOLN LABORATORIES
NORTHFIELD, MINN.

ORNAMENTAL TREES and SHRUBS . . . FRUIT TREES and ROSES for every location in your garden — described and illustrated in our 32-page color catalog for modern gardeners Send for a copy today before you buy.

Rich's DEPT. F RTE. 1 HILLSBORO, OREGON

Rare Hardy
Rock Plants

Rare and standard hardy perennial plants for rock garden or border. Visitors welcome at nursery; weekdays only, please! Catalog with road map, on request. Dept. Z.

PEARCE SEED CO. MOORESTOWN NEW JERSEY

Also Power Reverse. Women can operate it. Free Catalog. Write: ESHELMAN, Dept. 104 119 Light St., Balto. 2, Md., 333 N. Michigan Ave., Chicago 1, Ill. 7070 Hollywood Blvd., Los Angeles 28, Cal.

IRIS JAPANESE HIGO, TALL BEARDED SIBERIAN, KAEMPFERI

Chrysanthemums, Daylilies, Hardy Asters. Color Catalog and Planting Guide. Send 25c, deduct from first order.

Rogueland Gardens 325 New Hope Road Grants Pass, Oregon

BULBS

From Holland

Ask for our catalogue with prices, offering hundreds of varieties of Tulips, Daffodils, Hyacinths, Crocus, Lilies, Amaryllis, and Miscellaneous Bulbs.

All bulbs delivered, duty and freight paid to destination.

J. HEEMSKERK
c/o P. Van Deursen Sassenheim-Holland

***Glamorous* TRIPLETS**

Three brand new miniature rhizomateus begonias especially created for the **window garden.** You will be proud to exhibit them in your house. They are named

★ BOW-ARRIOLA,
★ BOW-CHANCE,
★ BOW-NIGRA.

All three have pretty flowers in winter and highly colorful foliage, but each is delightfully different from the others.

Young plants out of 2½" pots **$1.50** each, all three for **$4.00** postpaid. Orders are now being booked for May delivery for as long as the limited supply lasts.

You will also be fascinated with our free catalog of Out-of-the-Ordinary Bulbs, Orchids, Bromeliads etc. for the house, glasshouse and the garden.

OAKHURST GARDENS
ARCADIA, CALIF.

Schreiner's for **IRIS**

Send for 1954 Iris Book. 100 giant blooms in natural color from America's iris headquarters . . . 25c

SCHREINER'S GARDENS • Rt. 2, Box 327J • Salem, Ore.

A Most lawns need far more fertilizer than they are receiving. It is impossible in a limited space and time to describe all of the recommended methods, rates and times of fertilizing lawns. All of this information is easily available from experiment station bulletins and from local seed stores that follow experiment station recommendations. Also, the local golf course superintendent many times is in a position to help members of his club with their problems. In general, it is far better to fertilize frequently using rather sparing amounts each time than to try to put on the whole season's supply in one application. Burning is one of the difficulties that home owners run into when fertilizing their lawns. By using lighter amounts more frequently throughout the grass-growing season, danger of burning is minimized.

Q I've read about the new chemicals for inhibiting grass growth along the edges of roadways and walks. Do you recommend their use for the home garden?

A So far as we are concerned, these materials are still in the experimental stage and dangerous, as are any chemicals, when improperly used. However, by following directions and using reasonable precautions, a gardener might have fun experimenting with these along walks and driveways.

JAMES BURETT

Dr. Fred V. Grau

• Dr. Fred V. Grau, lawn expert who so ably answers your questions on turf management this month, is not sitting down on the job in the photograph above! Rather, he is pointing out the differences between Merion bluegrass and the older Kentucky bluegrass. Note the thick, healthy turf made by Merion bluegrass in the plot in front of Dr. Grau, and the sparse, half-dead turf formed by Kentucky bluegrass in the section behind him. These two plots should certainly offer future lawn makers food for thought.

CLARKE QUALITY PLANTS

PRIMROSES and PANSIES

Very attractive combination offers in both mixed and separate colors, superb blooms, early and hardy. Send for free illustrated plant list and for seed catalog in natural color.

The Clarkes
Box 440-F Clackamas, Oregon

Myrtle the perfect ground cover for banks and shady places

100 Big Clumps $13.00 (1000, $98)

For hard-to-mow places plant Myrtle (Vinca Minor), the sturdy, neat ground cover that stays green all winter. Beautiful blue flowers in May. Resists insects and disease. Our big, heavy clumps with 12 or more stems can be planted 2 ft. apart on level, 1½ ft. on slopes. You cover large areas for little money.

KELSEY NURSERY SERVICE
Highlands, N. J. (Dept. F-9)

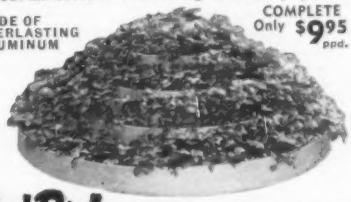
GROW MORE QUARTS OF STRAWBERRIES IN 60 TO 90 DAYS IN 5 FOOT AREA WITH THIS NEW EVERLASTING ALUMINUM . . .

PYRAMID STRAWBERRY GARDEN

Adds interest and beauty to your garden. Produces a bigger and better crop of berries. 5 ft. size just right for 50 plants . . . complete Only $7.95 ppd.

SPECIAL! 5 ft. Aluminum Pyramid Garden with 50 SUPERFECTION everbearing strawberry plants. COMPLETE Only $9.95 ppd.

MADE OF EVERLASTING ALUMINUM



Red Rich 5 STAR EVERBEARING **STRAWBERRY**

Grown in your own backyard!

Minnetonka Nurseries are featuring this New, Sensational 5 Star Strawberry.

★ EVERBEARING ★ ENORMOUS SIZE ★ IDEAL FOR FREEZING ★ FINEST FLAVOR ★ HEAVY YIELDING

ORDER NOW! Red Rich plants are still limited Don't be disappointed like so many people were last season.

RED RICH PRICES set by the patent holder.

12 plants.....$2.95 25 plants.... $5.00
50 plants.....$8.50 100 plants....$15.00

All plants guaranteed and prepaid!

Mail This Coupon With Check or M. O. Today!

MINNETONKA NURSERIES

Department F-4, Excelsior, Minnesota
Please send me the following, postpaid:
.....5 ft. Pyramid Garden(s) $.....
.....Red Rich plants $.....
.....5 ft. Pyramid Garden(s) with plants $..
Name .....
Address .....
City .....State.....

3 Garden Savers—Wren Houses

They're sturdy and colorful! And the tenants practically guarantee you a tuneful summer while busily keeping your garden insect-free. These 3 wren houses are weatherproof wood construction in contrasting browns for roof and body. Built according to specifications the entrance will admit only wrens. *All three wren houses* for only $2.15 ppd. Pa. add 1% sales tax. Clymer Sales Co. Inc., Point Pleasant, Bucks Co., Pa.

Surprise Gifts From Abroad

This exquisite hand-painted Lamp, worth up to $5, sent direct from Holland FREE for joining now! Members receive exciting surprise gifts from foreign lands monthly, postpaid, duty-free. If you join now, you may win a flying trip around the world! Send $7 for 3 months, $12 for 6 months, or $22 for 12 months. Money-back guarantee. Around-the-World Shoppers Club. Dept. 605, 71 Concord St., Newark 5, N. J.

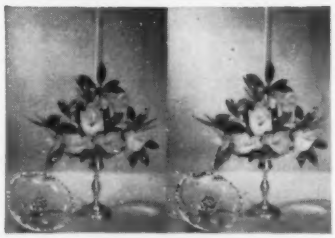
"EPI" Hybrid Orchids

Hawaiian Reed Stem Epidendrum Orchids! 10 "new" exciting colors: coral, pink, fuschia, lavender, cream, yellow, orange, red, rose, dusty rose. Extremely hardy, as easy to grow as a daisy, and one of the best flowering orchid plants. Produced by one of Hawaii's most noted hybridizers. $1.00 ea., 3 for $2.75; 6 for $5.00, ppd. No COD's. Growing directions included. Fern Hawaii, Box 468 FG, San Pedro, Calif.

shop in Flower Grower's **GENERAL**

EPERGNETTE . . .

Glamorous, new, different! American handmade glass dish that fits any silver, glass, wood or brass candlestick, making it into a charming little epergne in which to arrange flowers. 6½" in diameter. Holds water. You may use up to 6 miniature needlepoint holders (25¢ each) to anchor flowers individually. Epergnette, $2.25 each postpaid. Dorothy Biddle Service, FG-4, Pleasantville, N. Y.

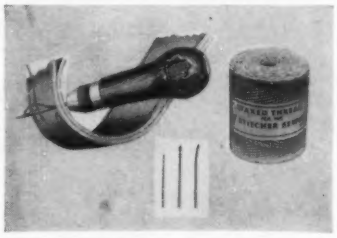


MIX-MIZER . . .

Let your sprinkler feed the garden while you relax! Fill the Mix-Mizer with Breck's Quick-Life or any other water soluble plant food, and water pressure does the rest. Automatically filters fertilizer through hose in correct proportions. In just 15 minutes it sprays up to 200 pounds of liquid plant food. Venturi jet principle assures correct mixture. Plastic with metal fittings. $3.69 postpaid including 1½ pounds Quick-Life. Breck's of Boston, FG-4, 279 Breck Bldg., Boston 10, Mass.

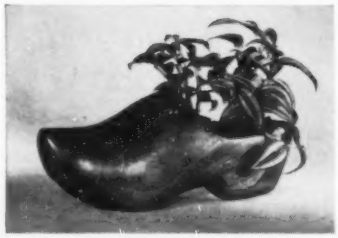
SPEEDY STITCHER KIT . . .

Got any tough sewing jobs to do around the house? Any awnings, tents, sails, auto tops, handbags, sporting equipment that need repairing? You can do it yourself and save money with this Speedy Stitcher. The awl pierces the toughest fabric or leather and sews a lock stitch like a machine from a bobbin of thread inside the handle. Complete with 6 assorted grooved needles and 180 yards waxed thread for $2.95 postpaid. Stewart Mfg. Co., FG-4, Worcester, Mass.



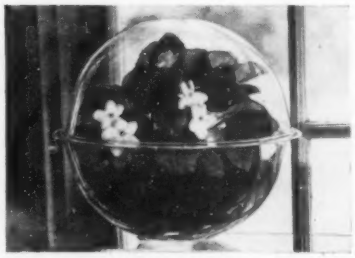
DUTCH SHOE PLANTER . . .

Use one or a pair of these authentic Dutch shoes as a planter for foliage plants or as a container in which to arrange daffodils, tulips or other spring flowers. Equipped with a waterproof metal liner, shoe is approximately 10" long, and has a beautiful antique pine finish. $3.95 each or $7.65 a pair, postpaid. Add 25¢ W. of Miss. for each shoe. The New England General Store, FG-4, Millis, Mass.



Fancy Leaf Caladiums

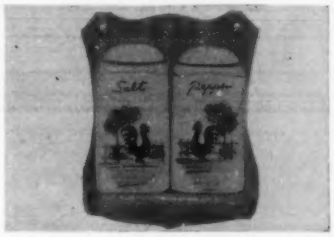
All the old and many new varieties of this colorful plant. More than 100 varieties to choose from. The perfect color plant for your garden. The cut leaves make fine table decoration. Prices include delivery. No. 1 size bulbs, 6 for $2.85; 12—$5.60; 24—$11.00; 50—$21.00; 100—$39.99. Complete variety list available on request. Joyner's, Caladium Specialists, 5102 Seminole Ave., Dept. B, Tampa 3, Fla.



Inexpensive Greenhouses

For indoors or out! Clear nine-inch diameter plastic protects from airborne diseases, light frost, hail. Two placed together form attractive modern display for houseplants. Ideal for growing or increasing African violets and other plants. Admits ultra-violet rays. Washable. Unconditionally guaranteed. Full instructions supplied. New low price—6 for $2.50, 12—$4.50 ppd. Plasti-Plant Hood Co., Box 93B, Elmhurst, 73, N. Y.

STORE *with Erna W. Cass*



SALT & PEPPER SHAKERS . . .

Attractive oversize ceramic salt and pepper shakers quaintly handpainted in Quimper style. Each is 4½" tall. The sturdy hand-pegged cedar hanging rack is nicely finished in a warm brown. An ideal house warming or shower gift! $1.95 postpaid. Agnestrong, Ltd., FG-4, 39 West 8th St., New York.

SELF ATTACHING SHELF . . .

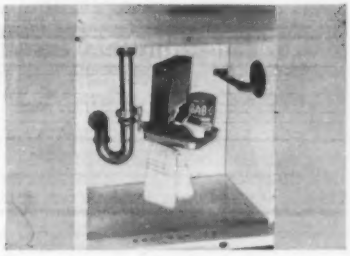
Fastens to window sill without screws or nails—just slip flange between window and sill and you have a sturdy shelf for plants, fan, etc. The window may be left open, closed or locked. Made of rigid steel with rolled edges of durable baked white enamel. Shelf is 23" long, 6" wide. $1.50 each, 2 for $2.85; 4 for $5.00, postpaid. Fischer's, FG-4, 43-62 Bowne St., Flushing, N. Y.

RAIN BONNETS . . .

Be prepared for April showers! Wear a clever little "umbrella" on your head and save your hair-do next time it rains. Or wear it in the garden or at the beach for protection against the bright sun. Works just like an umbrella. Of lightweight vinyl with rattan-ribs, it comes in red, blue, white or green. $1.98 postpaid. Frank Berlin Gifts & Gadgets, FG-4, 1356 Main St., Sarasota, Fla.

SPRINKLER-PLANTER PLAQUES

Give your kitchen or dinette a lift with this clever little ceramic wall decoration. Sprinkler is 5" high and flower pot 3½". Together they create the illusion plant is being watered. Each may be used as a separate planter. Hand-painted in Delft blue Dutch windmill scene, animated rooster with red accents and natural color grape cluster, all on white background. $2.00 the set, postpaid. Gilbert & Leonard, FG-4, 1544 Northern Blvd., Manhasset, N. Y.



Han-D-Pan

Use that wasted space under kitchen and bathroom sink for convenient storing of cleaning items. Attach HAN-D-PAN to drain pipe with screw driver. Holds soap, cleanser, scouring pad, wash cloth. Made of aluminum. Order 2—one for kitchen, one for bathroom,—and solve problem of where to put cleaning items. Only $1.98 ppd. No COD's. Edward L. Yanchus, Dept. FP, 2750 W. 18 St., Chicago 8, Ill.

Tra-Table

Convenient and beautiful! Folds compactly when not in use. Stand is 21" high, holds popular 9" x 14" tray. Beautiful Oriental design, baked enamel finish. Ideal for individual serving or bedside stand. Tray can be used alone. Available in combinations of red and black, or black and gold. Only $1.98 plus 27¢ postage. No COD's. Edward L. Yanchus, Dept. FT, 2750 W. 18 St., Chicago 8, Ill.

For "Attraction in Action"

Complete your wardrobe with the "Playotte". This action-built skirt is as attractive when gardening as it is when golfing, bowling, riding or hiking. Tailored with button girdle front over a trim concealed zipper. Fine Rayon Gabardine in navy, black, gray, brown, green and wine. Waist sizes: 22 to 32, $5.95; 34 to 40, $7.95, plus 15¢ postage. Sheldon Specialty Company, Dept. A., 545 Fifth Ave., New York 17, N. Y.

Easy-to-Use Garden Sprayer

Protect home and garden from insects. Uses soluble sprays for flowers, plants and trees. All brass. 2 quart jar. Continuous spray from mist to full stream. Save unused sprays in other jars reday to kill pests. Swivel nozzle sprays hard-to-get-at places. If unavailable at dealers send $5.85 ppd. Without swivel nozzle, $4.85. Add 10¢ Denver & west. 3% tax in Fla. Sprayers & Nozzles, Inc., St. Petersburg 4, Fla.

Multiple Root Soaker

Now soak 5 plants at once with your garden hose. SOAKEZE attaches to hose; has 5 outlets, each with small plastic hose; two 12 ft. long, three 9 ft. Place ends of hose at base of plants and run small stream of water for deep, thorough soaking. 5 yr. guar. Complete, ready to use, $4.95 ppd. With sprinklers order SPRINKLEZE, $8.95. Guar. Satis. Jons Manufacturing Co., Dept. A-30, St. Matthews, S. C.

Day-n-Night Marker $1.95

Your name (or any other wording you want) appears on both sides of your DAY-n-NIGHT Marker in permanent raised letters that shine bright at night! Fits any mailbox, easy to install. Rustproof; made of aluminum; baked enamel finish, black background, white letters. Shipped within 3 days. Satis. guar. or your money back. Only $1.95 ppd. from Spear Engineering Co. 84 Spear Bldg., Colorado Springs, Colo.

Vegetable and Meat Drainer

The handiest and most useful gadget for draining water from vegetables or meat; for draining soup from stock; excellent for draining water from washed rice, beans, potatoes, etc. Made of aluminum. It will fit all pots. No kitchen should be without one of these drainers. 80¢ each, 2 for $1.50, postpaid. No COD's please. Write for free catalog. Send remittance to Fischer's, 43-66F Bowne St., Flushing, N. Y.

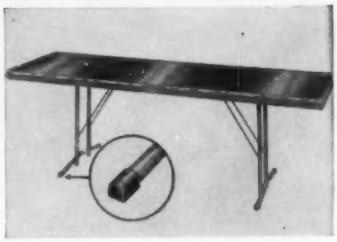
Automatic Digger

Sensational new invention imported from Germany. Digging made easy in any kind of soil, even for women and children. Push TERREX into the soil; by a slight movement of the arms the soil is loosened, raised and turned over. No more stooping or lifting, no more backache. Spade your garden in half the time without effort. Only $17.85 ppd. No COD's please. The American Garden Supply Co., East Norwich, N. Y.

shop in Flower Grower's GENERAL

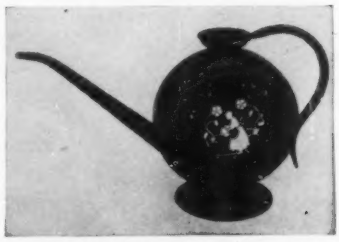
FOLDING BANQUET TABLES . . .

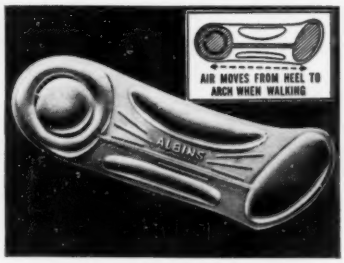
Is your church, lodge, P.T.A., Legion Auxiliary or other club in need of banquet tables? If so, have your Committee write to The Monroe Company, 129 Church St., Colfax, Iowa, for complete details and prices on their modern, no-knee interference folding pedestal banquet tables. They are available with standard tops of Masonite or special tops of Formica or Ornacel in four attractive, durable finishes.



½ GALLON WATERING CAN . . .

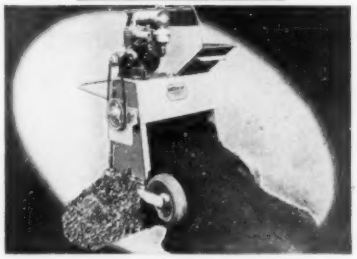
What this world needs is a bigger and better house plant watering can! Here's one with a half-gallon capacity and attractive at the same time. You'll like it because you can water practically all of your plants at one time. Made of quality plate steel with both the inside and outside enameled. Green or black. $3.25 postpaid. Becker Products Co., FG-4, 161-30 129 Ave., Jamaica 5, N. Y.





Walk on Air

For quick relief from calluses, blisters, spur or bruised heels, general foot fatigue, place Albin Air Cush'n Innersoles in your shoes. Air moves thru small channel, gently massaging feet. Odorless, non-absorbent, almost weightless. Order by men's or women's shoe sizes. $2.95 a pr. No COD's please. Money back if not delighted. Albin of California, Rm. 10D, 1401-33 W. 8th St., Los Angeles 17, Calif.

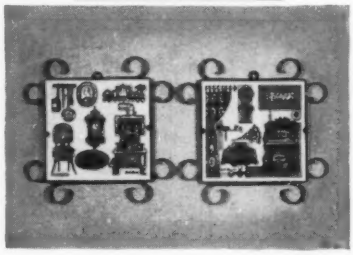


Portable Compost Grinder

You'll be amazed at the versatility of this portable gas or electric powered compost grinder. It has dozens of uses besides grinding, shredding and screening tough organic matter, wet or dry, into compost material, mulch or fertilizer. Mixes and screens fine enough for seeding flats. Separates trash. Sold with or without motor. $124.50 less motor, F.O.B. Wichita. Write for literature. W-W Grinder Corp., Dept G., Wichita, Kansas.

Curl Cap Dry-Sets Hair in 30 Min.

For quick curls, pin up your hair dry. Dip Curl Cap in warm water, and tie it on. In 15 min. take Curl Cap off; 15 min. later, comb your curls! Made of DuPont nylon, impregnated with waveset which lasts and lasts. Can be used over and over to set your hair. Red, blue or maize. Satis. Guar. or money back. $1.00 ppd. from Walter Drake, 234 Drake Bldg., Colorado Springs 6, Colo.



Gay '90's Tiles . . . $1.25 each

Bring back nostalgic memories of Grandma's "Old Fashioned Kitchen" and "Old Fashioned Parlor", with these colorful, hand-screened, under-glaze decorated 6" x 6" felt-backed tiles. Attractive wall decoration, practical table protection and base for potted plants. Tiles, $1.25 each; with black iron trivet, $2.25; with black iron frames (shown) $2.95, ppd. Otake Art Shop, Dept. F-4, 59 W. Washington St., Chicago, Ill.

STORE *with Erna W. Cass*

TEXAS CACTI ASSORTMENT . . .

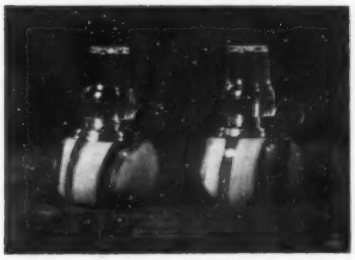
The cactus is the easiest of all plants to grow indoors. It needs and wants no pampering and doesn't even mind if you forget to water it for days. Here's a fine collection of 10 sturdy, healthy well rooted plants ready for planting. The varieties include some tall, some round and others flat. $2.50 for the collection, postpaid. Black & Co. Inc., FG-4, 125 Merrick Road, Rockville Center, N. Y.

TWIN LAUNDRY BAGS . . .

Dampen clothes without sprinkling! Twin bags separate white clothes from colored, starched from unstarched and larger from smaller pieces. No rolling, no folding required. Just add a cup or more of water and they will be evenly dampened when ready to iron. Clothes stay damp up to 5 days. A double 18" x 36" heavy gauge polythylene bag with an aluminum rustproof zipper. $2.89 postpaid. Stevro Products, FG-3, 132 Vanderveer Station, Brooklyn 10, N. Y.

Pruning Saw

Imported pruning saw with a 10½" steel blade having 6 points to each inch of blade. Folds completely into sturdy wooden handle with locking device for safety. Can be slipped into pocket or hung on belt for easy carrying when not in use. Extremely popular saw for the gardener or camper. $1.95 ppd. Write for free catalog. T. A. Gary, 2 East 44 St., New York 17, N. Y.



Salt And Peppers

Hurricane Lamp salt and pepper shakers, hand turned from Central Oregon Juniper—the world's most beautiful wood. Truly "Museum Pieces" you will use every day with pleasure. Because they are made to order, please allow two to three weeks for delivery. Only $3.35 postpaid, which will be promptly returned if you are not satisfied and pleased. Cascade Novelties, P. O. Box 1, Bend, Oregon.

Early American Dinner Bell

Attractive and practical addition to any landscaping arrangement. Patterned after Early American dinner bell used on ranches, plantations. Clear full tone. For homes, estates, lodges, etc. Bronze, Silver or Black. 12" x 17¾" dia. $28.50 postpaid. Metal bracket hardware included. C.O.D. orders—$10. deposit, balance on dely. plus charges. Larger size available. H. B. Brown Co., Dept. 12, River Forest, Ill.

Save Your Back with EZE-E-DIG

Only Eze-E-Dig makes the right size hole for bulbs, plants, and shrubs without stooping. Two blades form cup 3½" dia. that cuts and grips soil, easily lifting it; plunger ejects soil at will. All steel, 30" handles; wt. 3 lbs. See your dealer, or send $5.50 for each Eze-E-Dig, ppd., tax included.

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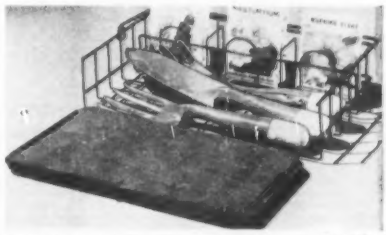

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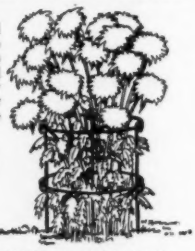

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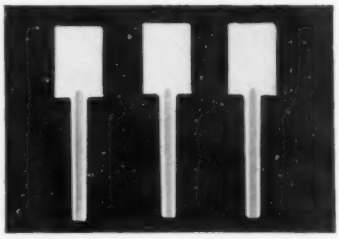

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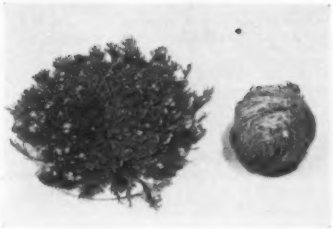

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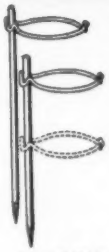

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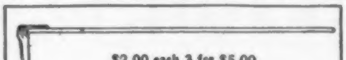

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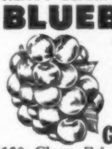

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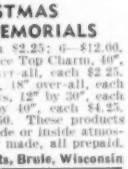

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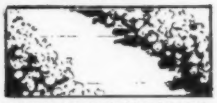

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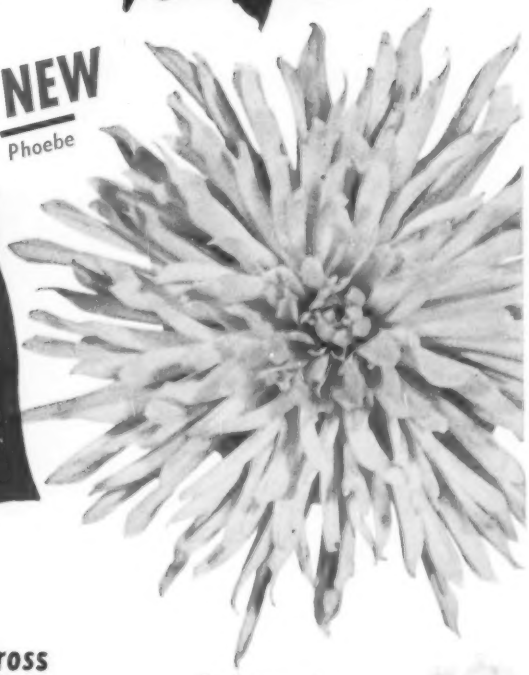

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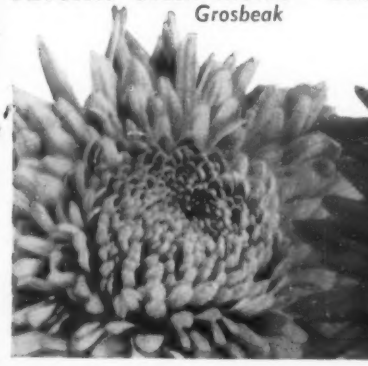
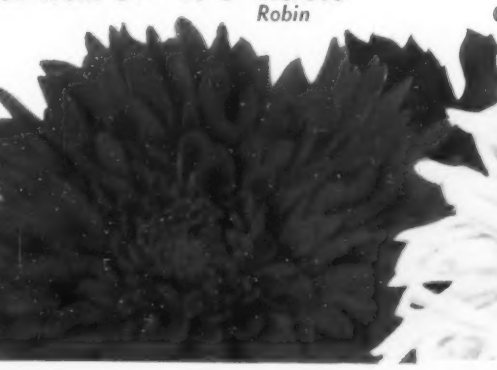


Robin



Cockatoo

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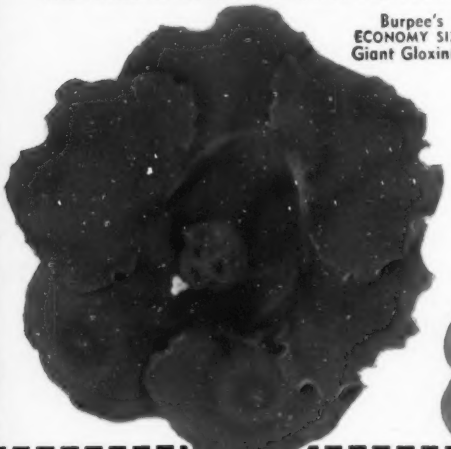

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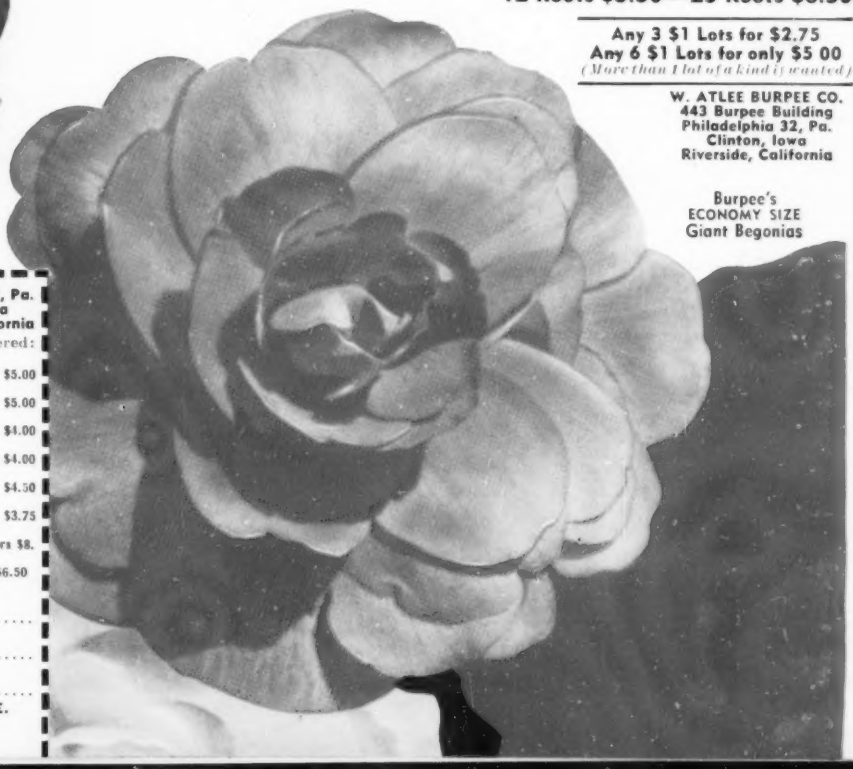

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